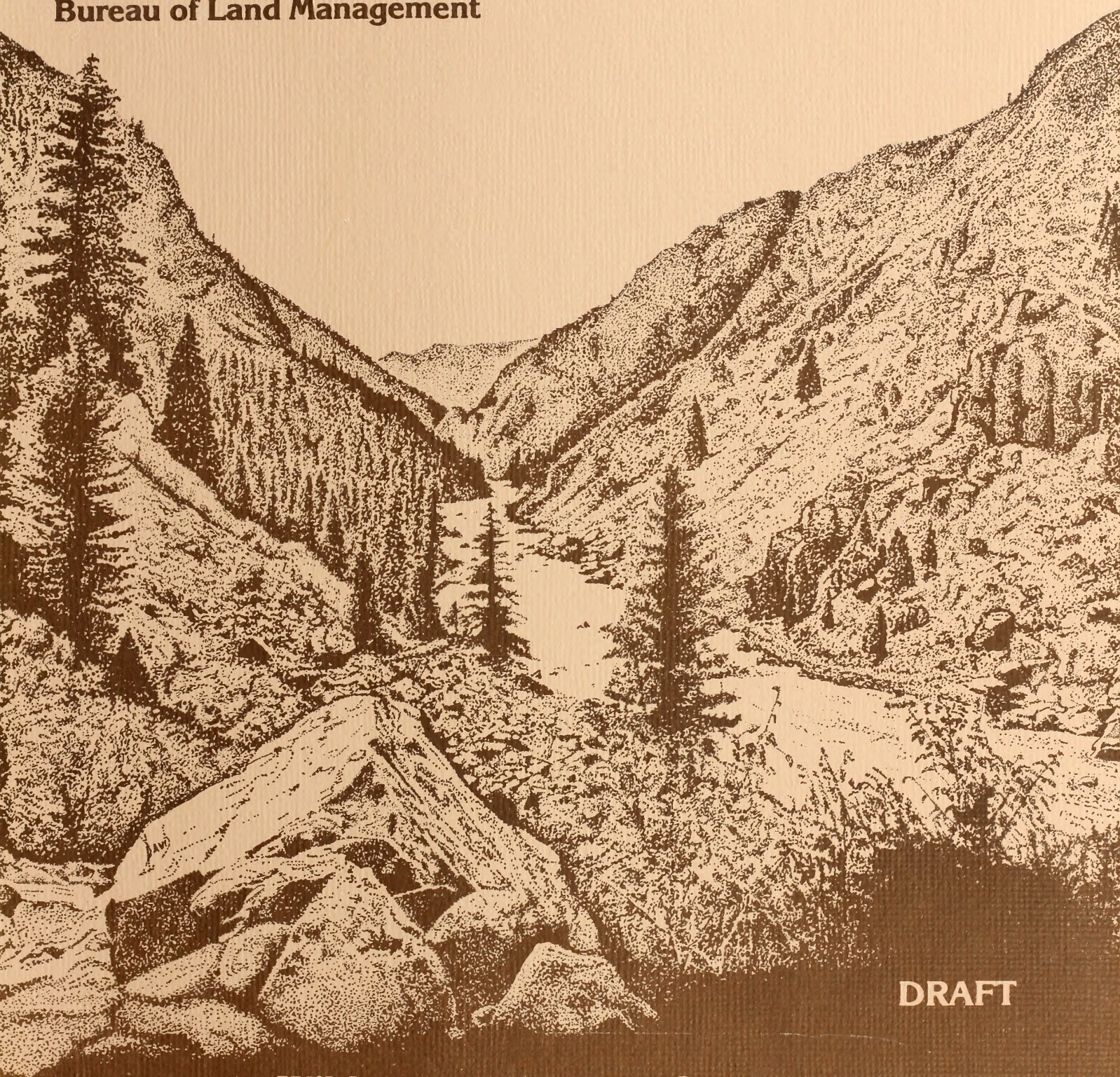




**Department of Interior  
Bureau of Land Management**



**DRAFT**

**Wilderness Instant Study Area**

# **BEAR TRAP CANYON**

**Suitability Report and Environmental Impact Statement**

QH  
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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

DRAFT

SUITABILITY REPORT  
and  
ENVIRONMENTAL IMPACT STATEMENT  
FOR WILDERNESS DESIGNATION OF  
BEAR TRAP CANYON INSTANT STUDY AREA

Madison County, Montana

April 1980

Michael J. Porfeld

Montana State Director

Bureau of Land Management  
Library  
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# INTRODUCTION

The Bear Trap Canyon wilderness study is in response to a congressional mandate in section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA; see Appendix I). This section directs the Secretary of the Interior to have the Bureau of Land Management (BLM) study all public lands under its jurisdiction for their wilderness potential. It further provides that the BLM must review the wilderness potential of areas of public land that were designated natural and primitive areas before November 1, 1975. Those areas, which were designated Instant Study Areas (ISAs) with the passage of FLPMA, are to be studied according to guidelines in section 3(d) of the Wilderness Act of 1964 (see Appendix 2).

The Secretary of the Interior is then required to report to the President his recommendations on the wilderness suitability of these Instant Study Areas by July 1, 1980. The President then will make a final recommendation to Congress. The final decision on designation will be by an act of Congress.

This document fulfills the requirements for a Draft Environmental Impact Statement (DEIS) as well as the requirements for a wilderness suitability report as stipulated in FLPMA. Part I describes the wilderness characteristics of Bear Trap Canyon and the consequences that wilderness designation would have on the Bear Trap Canyon Primitive Area and the contiguous roadless public land. Part II contains an abbreviated DEIS that summarizes information presented in Part I.

The preferred alternative discussed in the "Recommendation" section was selected only after each alternative was analyzed in its entirety. Additional alternatives can be generated during the public review, or the existing ones can be modified. Any new alternatives will be analyzed and compared with existing alternatives before a final recommendation is made.



# RECOMMENDATION

On the basis of information and analysis used in the preparation of this report, Alternative 1-C, Designation of a Physiographic Unit, is preferred over the other alternatives considered. The preferred alternative would extend the Instant Study Area to logical physical boundaries, would protect the wilderness qualities of the canyon, would include those areas of the canyon with the highest scenic and recreation values, would include areas representative of vegetation and wildlife habitat of the region, would benefit watershed and wildlife values, and would be manageable as a unit. The area would provide a broader base for recreation within the canyon and so reduce some of the pressure from recreation along the river. There are no significant competing resource values, and no significant local opposition to designation has occurred.

This alternative recommends the designation of approximately 5,719 acres of public land as wilderness and the return of 93 acres of public land to other multiple use management. The optional boundary indicated in the Alternatives section encloses 3,922 acres of BLM-managed land and 1,797 acres of national forest land, 1,507 acres in Gallatin National Forest and 290 acres in Beaverhead National Forest. This national forest land is part of the Madison Study Area, which is being studied for wilderness suitability under the Montana Wilderness Study Act (PL 95-150) and RARE II, and the results of that study could influence any final identification of physiographic boundaries. The Forest Service expects to release the Madison Study Area Draft Environmental Impact Statement in July 1980. The national forest lands being considered appear to have wilderness qualities and probably lack significant competing resource values.

Selection of this alternative represents the continuation of a management philosophy already in effect. The protection of natural qualities was established as the best use of the area through its designation as a primitive area in 1972, and that policy was continued in the most recent Management Framework Plan (MFP) for the Dillon Resource Area. Since current BLM policy is that there will be no more primitive areas, designation of Bear Trap Canyon as wilderness is the most logical means of ensuring the continued protection of its natural qualities.

The BLM does not have jurisdiction over national forest lands. The National Environmental Policy Act, however, requires that all reasonable alternatives be considered regardless of agency jurisdiction. A natural or physiographic boundary is one such reasonable alternative in considering Bear Trap Canyon for wilderness designation. As indicated above, any final boundary line identified for this alternative should reflect the management responsibilities and resource conclusions of both the Forest Service and the BLM. Certain provisions to spell out agency management responsibility would need to be included in legislation that designates a physiographic unit as wilderness. These and other legislative needs are detailed in Appendix 8.

If this alternative is selected, (1) the area would be closed to motor vehicles, and the use of motorized equipment would not be allowed; (2) timber harvesting would not be permitted; and (3) development of the mineral resources would be limited or excluded under provisions of the Federal Land Policy and Management Act and the Wilderness Act (see "Resources" section and Appendixes 1 and 2). None of these provisions would cause opportunities to be forgone, because steep slopes severely limit the use of vehicles, timber values are low, and there is little potential for minerals of commercial interest (see Appendix 5). The elimination of development of the resources would have a negligible effect on the local economy.

Actions to remove any existing imprint of human presence would be initiated after designation. These actions include removal of human artifacts, elimination of nonconforming use, and restoration of the natural condition of the land. Natural systems should erase the effects of disturbance within a short period of time. Measures are being undertaken to resolve the issue of the nonconforming use of the cabin near Bear Trap Creek.

Areas of use within the canyon are expected to follow existing patterns, but more space would be available to distribute certain uses such as hiking and nature study. These issues would be further studied and resolved in the management plan for the canyon and through the Madison River corridor plan, which will include considerations that apply to the entire river corridor. The Forest Service would participate in development of both plans.

Bear Trap Canyon has been found to possess wilderness characteristics and to have wilderness as its most appropriate use. Alternative 1-C would create the most logical and manageable boundary for the area. Few management or resource options would be closed through designation. Scenic, recreation, watershed, wildlife, and natural ecological values would be preserved.




The recommendation in this draft document is that of the Dillon Resource Area Manager and the Butte District Manager, and it contains the concurrence of the Montana State Director. The final document and recommendation, which will be prepared after public comments are evaluated, will contain the approval of the Director of the Bureau of Land Management. The Secretary of the Interior will make his recommendation and forward the final document to the President of the United States. It is then the President's prerogative to make a recommendation to Congress, who will make the final decision as to what, if any, area will become part of the National Wilderness Preservation System.

 3/27/80  
Area Manager Date

Recommendation

 3/27/80  
District Manager Date

Concurrence

 3/31/80  
State Director Date

Approval

Director Date

STATISTICAL SUMMARY

BEAR TRAP CANYON INSTANT STUDY AREA  
Madison County, Montana  
Butte District

	Previously Designated Area	Contiguous Lands	Total
Acres without wilderness characteristics	0	0	0
Acres on which wilderness characteristics are to be determined <sup>a</sup>	0	1,797	1,797
Acres with wilderness characteristics Recommended for designation	2,861	1,061	3,922
Not recommended for designation	<u>0</u>	<u>93</u>	<u>93</u>
Total	2,861	1,154	4,015
Acres owned in recommended area			
BLM	2,861	1,061	3,922
Forest Service	0	1,797	1,797
Other	<u>0</u>	<u>0</u>	<u>0</u>
Total	2,861	2,858	5,719

SOURCE: BLM, 1980.

a. Forest Service wilderness study is not yet completed.



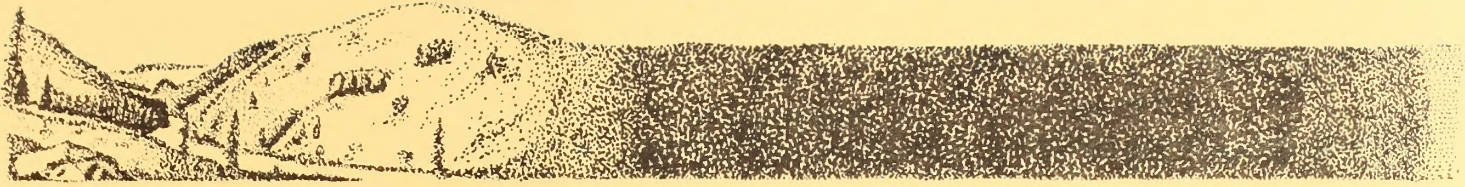
**DRAFT  
SUITABILITY  
REPORT**

**PART I**





# THE AREA



## GENERAL CHARACTERISTICS

Bear Trap Canyon is located in Madison County in southwestern Montana where the Madison River cuts through the northwestern end of the Madison Range, connecting the north and south Madison valleys. The canyon is named for Bear Trap Creek, a tributary of the Madison River, but it was previously called the "Madison River Canyon," as this is the only significant canyon on the Madison River. The canyon is about 31 miles roughly southwest of Bozeman, Montana, just south of Montana Highway 84.

The Bear Trap Canyon study area encompasses the previously designated primitive area and the contiguous roadless BLM lands that have wilderness characteristics, as determined through the intensive inventory. This amounts to 4,015 acres of public land, including 9 miles of river gorge. The boundary of the study area is shown on the Bear Trap Canyon Study Area map.

Adjacent Forest Service lands have not been studied by the BLM for wilderness suitability. The physiographic unit that is recognizable as a canyon extends beyond the study area boundary onto private land and onto areas under Forest Service jurisdiction. The Forest Service is studying this area for wilderness characteristics as part of a larger unit, the Madison Study Area. The Madison Study Area contains 538,915 gross acres (429,692 net acres). The Forest Service expects to have a draft report on this study in July 1980, with the final report due early in 1981.

A powerhouse and related facilities are in a confined section of the south part of the canyon outside the study area. Rafts and boats can put into the river just upstream from the powerhouse; however, hikers can enter the canyon only at the north end because the powerhouse blocks hiking access on the south.

## THE REGION

Southwestern Montana is in a region of the United States that is low in population and population density. Montana, Idaho, and Wyoming have a combined population of 1.74 million (1970), for a population density of about 5.3 persons per square mile.

A 1979 study conducted by the BLM in its Dillon Resource Area, of which Bear Trap Canyon is a part,

listed the 1975 populations of the four resource area counties as follows: Beaverhead, 8,300; Deer Lodge, 15,200; Madison, 5,800; and Silver Bow, 43,000 (U.S. Department of the Interior [USDI], BLM 1979b). The cited report contains general information on the Dillon Resource Area and describes the results of a survey of land use attitudes of resource area residents.

The climate in the region is influenced by both continental and maritime air masses. Moist air from the north Pacific brings precipitation to areas west of the Continental Divide, but the air loses its moisture as it encounters succeeding mountain ranges. Continental climate dominates areas east of the divide, where summers are relatively hot and most precipitation occurs between May and September. Subzero Arctic air from the north makes winter temperatures plunge and contributes snow to the area. This air mass is often pushed north by warmer continental air; this chinook weather is typified by rapid snowmelt and local flooding.

Bear Trap Canyon is on the east side of the Continental Divide and is influenced primarily by continental weather patterns. Summers are hot, with a mean temperature in July of about 65 degrees Fahrenheit. The average high temperature in July is almost 93 degrees F. Winters are harsh. The mean temperature in January is about 22 degrees F. and the average low temperature is about 17 degrees F. Snowfall averages about 32 inches a year, and snow may fall as early as late September and as late as May. About 16 inches falls in January through March, but the area is usually snowed in by late November. The total average precipitation is 11.4 inches; of this, 7.4 inches, or about 65 percent, falls between May and September.

The north-south orientation of mountains and valleys in southwestern Montana restricts access in the east-west direction, so corridors of highways and utilities have developed along the north-south valleys. East-west movement has been restricted largely to mountain passes.

Southwestern Montana is fairly complex geologically. Mountain ranges of metamorphic igneous rocks run roughly north and south. The Madison Range is largely gneiss and schist. Bear Trap Canyon cuts through the Precambrian gneiss and schist at the northwestern end of the Madison Range. The canyon is about 2,000 feet deep in its deepest part on the west side and about 3,000 feet deep in its deepest part on the east side.



TABLE 1

## TRAVEL DISTANCES TO BEAR TRAP CANYON TRAILHEAD

City/Metropolitan Area	Approximate Population (1976)	Distance in Miles	Travel Time One Way*
<u>Local</u>			
Anaconda, MT	9,800 (1970)	80	1-1/2 hours
Bozeman, MT	16,700	29	1/2 hour
Butte, MT	23,368 (1970)	68	1 hour
Dillon, MT	4,800 (1980, estimated)	94	2 hours
<u>Regional</u>			
Billings, MT	61,600 (1970)	169	3-1/2 hours
Great Falls, MT	60,100	222	4-1/2 hours
Helena, MT	10,600	133	2-1/2 hours
Missoula, MT	29,500	186	3-1/2 hours
Boise, ID	100,000	431	1 day
Idaho Falls, ID	37,000 (1975)	192	4 hours
Salt Lake City, UT	800,000	399	1 day
Spokane, WA	176,000	387	7-1/2 hours
<u>National</u>			
Los Angeles, CA	7,000,000	1,090	2 days, 6 hours
San Francisco, CA	3,000,000	1,012	2 days, 4 hours
Denver, CO	1,500,000	721	1 day, 6-1/2 hours
Minneapolis/Saint Paul, MN	2,000,000	986	2 days, 3-1/2 hours
Portland, OR	1,000,000	733	1 day, 6-1/2 hours
Seattle, WA	1,500,000	663	1 day, 5-1/2 hours

SOURCES: Rand McNally and Company, *Household Goods Carriers' Bureau Agent Mileage Guide No. 11* (New York: Rand McNally and Company,) 1978; BLM, 1980.

\*Calculated for 50 miles per hour and 8 hours maximum driving per day (400 miles maximum day, rounded to nearest half hour).





**GENERAL LOCATION  
BEAR TRAP CANYON  
W.I.S. A.**





# BEAR TRAP CANYON WILDERNESS INSTANT STUDY AREA

STUDY AREA

R. 1 E.

R. 1 W.

T. 3 S.

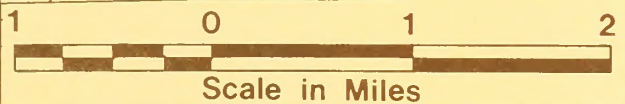
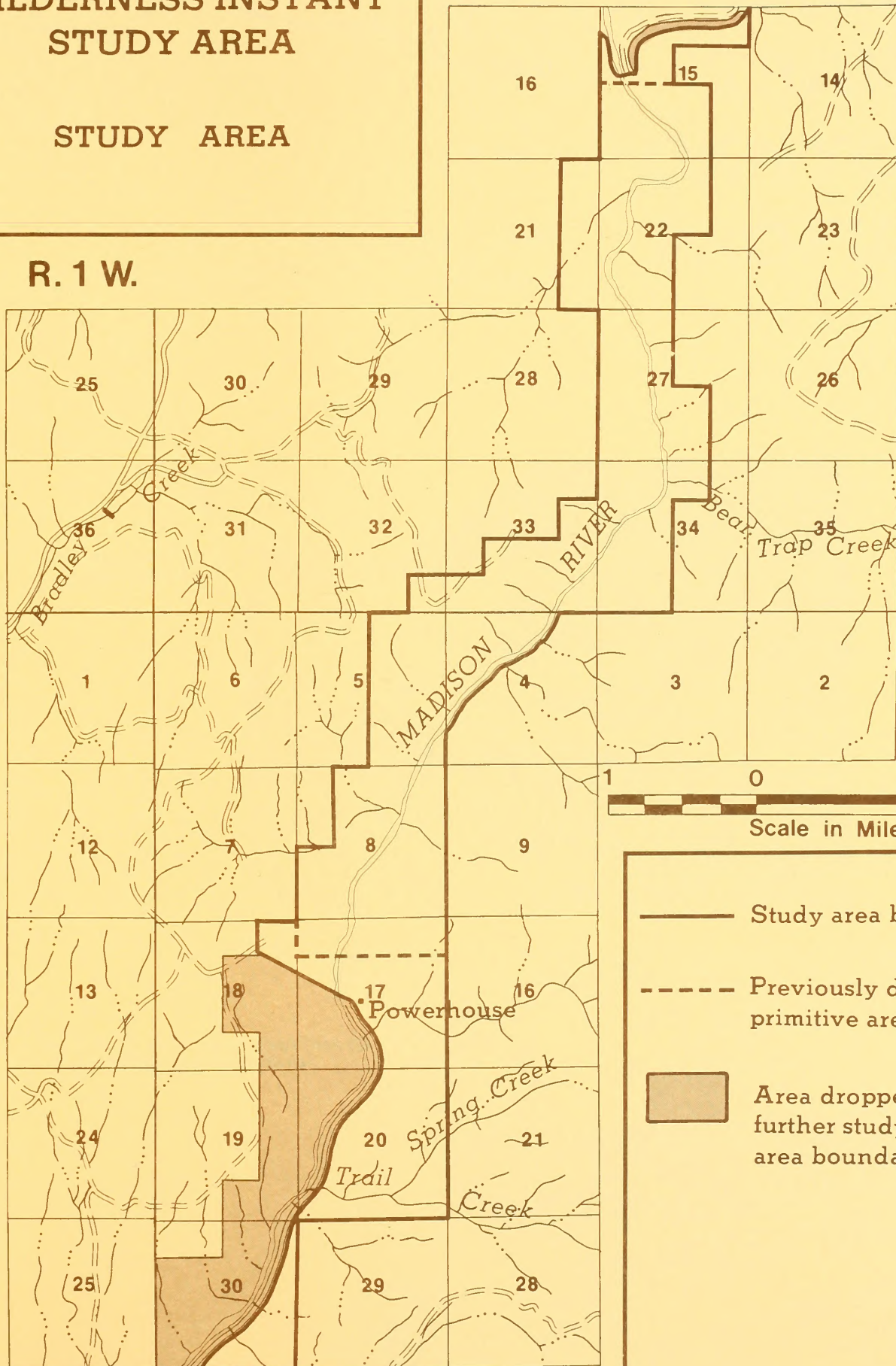
T. 3 S.

T. 4 S.

T. 4 S.

R. 1 W.

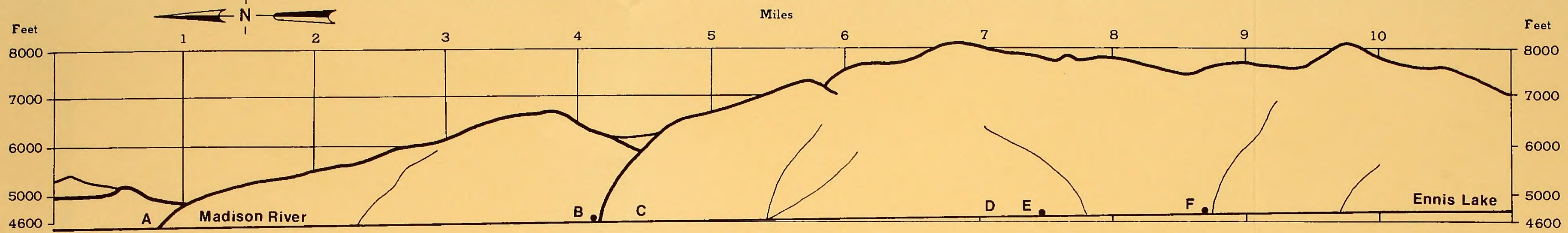
R. 1 E.



- Study area boundary.
- - - Previously designated primitive area boundary.
- Area dropped from further study (roadless area boundary).







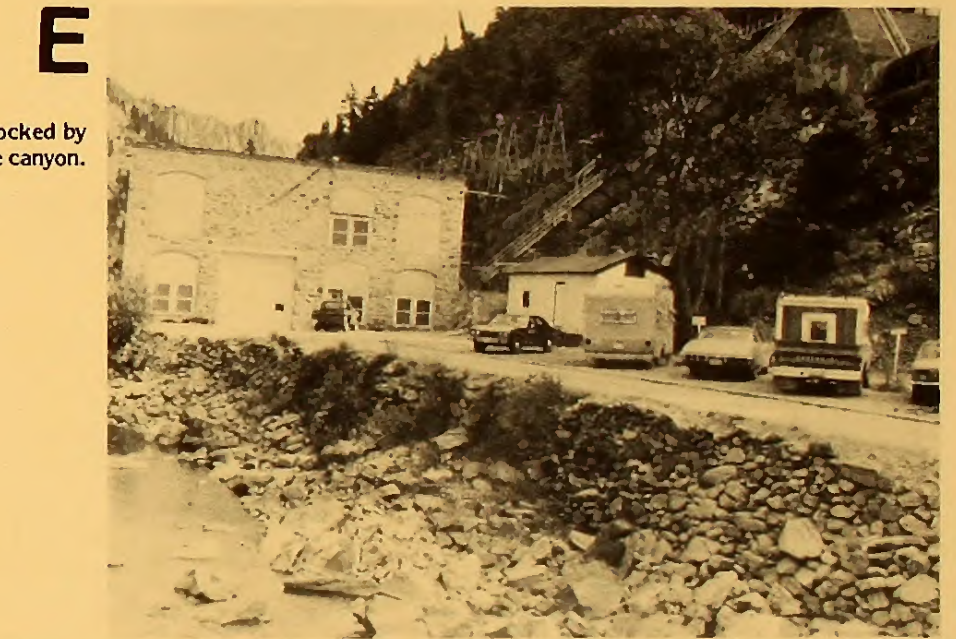
# BEAR TRAP CANYON PROFILE



Road closure at the trailhead at the north end of Bear Trap Canyon.



These rapids make river running thrilling and hazardous.



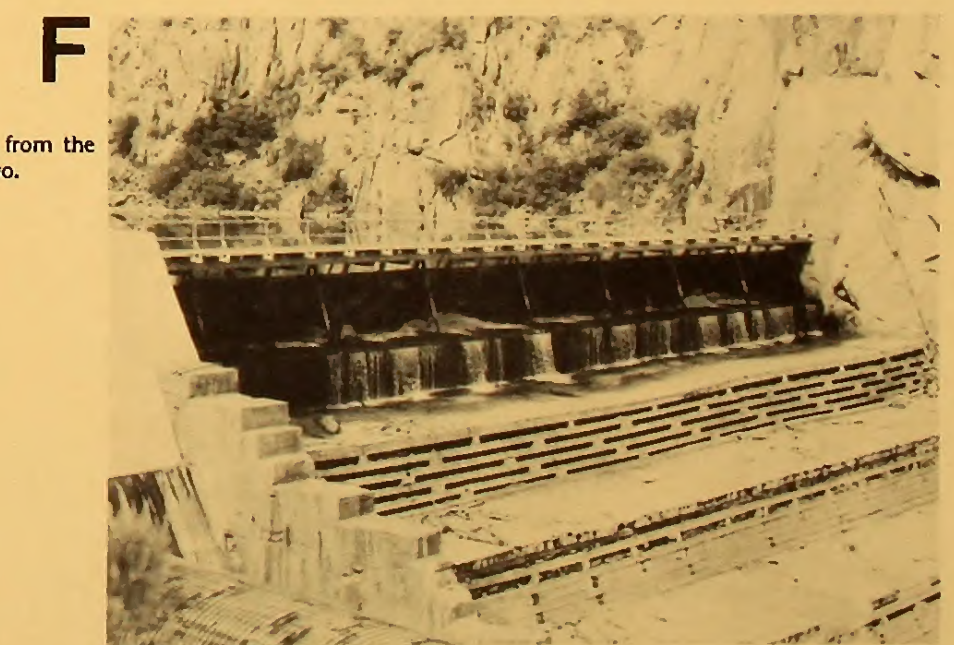
Access to the canyon from the south is blocked by this powerhouse and the steep slopes of the canyon.



Looking south at the cabin near the middle of the canyon.



This powerline marks the southern limit of the west side of the study area.



The dam is to the south and upstream from the powerhouse; an aqueduct connects the two.







The Madison Range is largely forested, but it has sizeable areas of prairie and grassland plateau. Bear Trap Canyon lies in the transition area between forest and plateau, but it is not a part of either because of topography and the microclimate of the canyon. The canyon is forested with Douglas-fir on north slopes; the growth on the east side of the canyon is denser than that on the west side.

There are many areas of bare rock on both sides of the canyon. Southwest-facing slopes are sparsely vegetated with juniper, occasional aspen patches, and sagebrush. Grassy, prairie type vegetation is more common on the west side of the canyon, but large areas of grass can be found on both sides.

Slopes in the canyon are dramatically steep; some canyon walls are vertical, and slopes exceed 60 percent in most places. Thus, movement through the canyon on land is restricted to a narrow trail along the east side.

The flow of the Madison River through the canyon is regulated by a dam and a power plant. Ennis Lake, upriver from the canyon, has become silted over the years, and the increasing shallowness of the water has had the effect of raising water temperatures. These increased temperatures have caused the size of the fish in the canyon to decrease.

The wilderness review process was used to study the canyon, and contiguous roadless areas were added to the original boundary. During the intensive inventory process (see Appendix 3), certain areas that were found to lack wilderness characteristics were dropped from further study. The area that remains after these adjustments is shown on the maps for each alternative and on other maps in this document.

## MANAGEMENT HISTORY

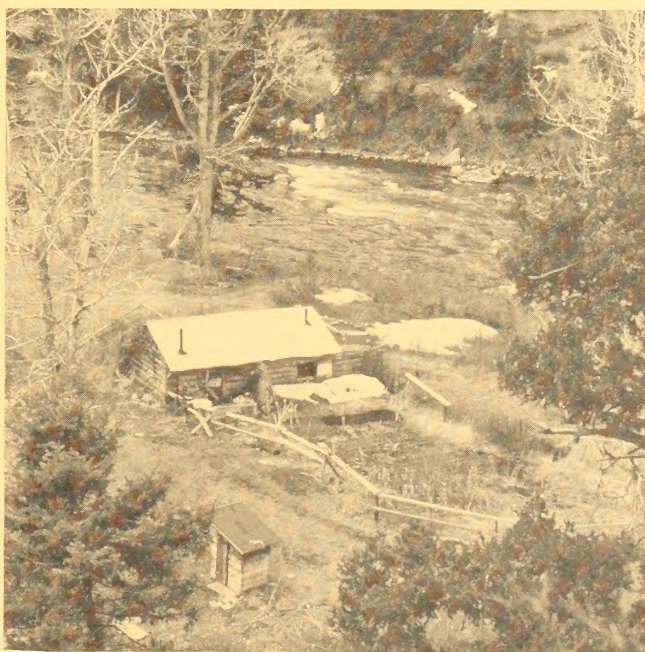
Bear Trap Canyon was withdrawn from all forms of appropriation under public land laws, including mining laws, and from leasing under the mineral leasing laws, subject to valid claims published in the Federal Register of June 9, 1971. The reasons for the mineral withdrawal of lands were (1) the area is used for recreation, (2) minerals reports made in January 1970 by the Geological Survey, U.S. Department of the Interior, indicated the area had no value for leasable, salable, or locatable minerals or for geothermal development, (3) there is no commercial timber value in the area, (4) geology and earth science classes from Montana State University were interested in studying Bear Trap Canyon, (5) prospecting in the canyon could have detrimental effects on watershed, wildlife habitat, vegetation, and aesthetic values, (6) the canyon is in a natural state, (7) protection under law that existed at the time was inadequate, and (8) comments by the public and interest groups indicated interest in the preservation of the area's natural qualities.

Bear Trap Canyon was subsequently designated a primitive area by the Secretary of the Interior, by an order published in the Federal Register on September 13, 1972. With the passage of FLPMA in 1976, this area automatically became an Instant Study Area subject to study for wilderness suitability, as described in the Introduction.

## WILDERNESS INVENTORY

The wilderness intensive inventory conducted for the Bear Trap Canyon study area determined that the area had qualities of naturalness, outstanding opportunities for solitude and for primitive and unconfined recreation, and supplemental values.

A cabin that is used as a dwelling near the center of the canyon (see the Study Area Characteristics and Influences on Natural Quality maps) is currently in trespass. Damage to the natural quality of the area includes cultivation of a small garden and some cutting of trees. This situation is described in more detail in Appendix 3. The cabin and all other imprints of human presence could be effectively erased, returning the area to a truly natural condition.



Cabin near mouth of Bear Trap Creek, near the middle of the canyon

The river, the focus for recreational activity, concentrates active use of the area within a narrow, steep-sided corridor, so that opportunities for solitude in other parts of the study area are enhanced. Areas with outstanding opportunities for solitude are often difficult to reach because of the steep slopes (more than 60 percent) that help confine activity to the river. The feeling of isolation from civilization is outstanding because vegetation and the canyon walls screen out views and noises of the outside world.



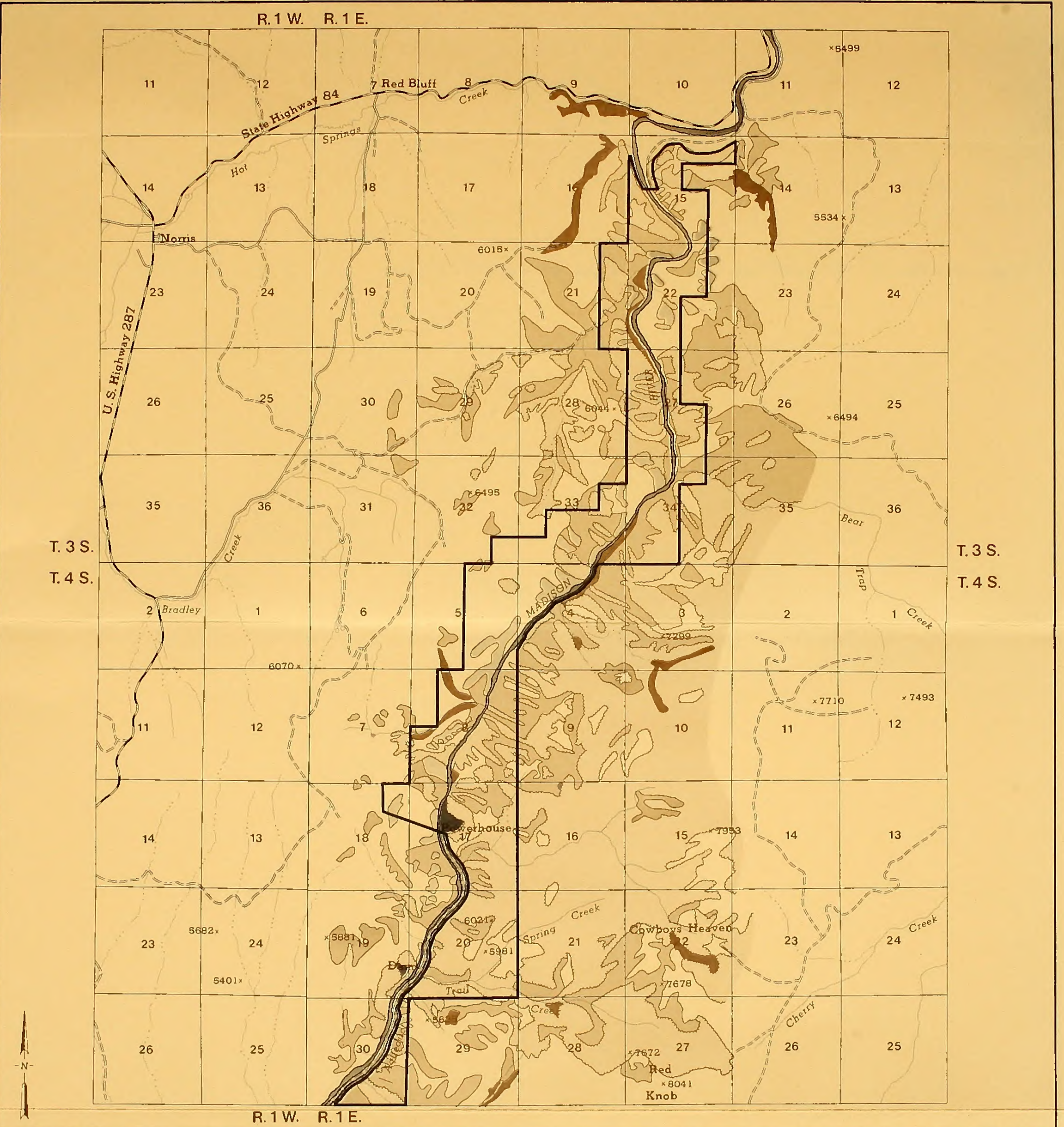
Opportunities for primitive and unconfined recreation are outstanding. Besides fishing, the dominant activity, other popular pursuits in Bear Trap Canyon are hiking, camping, river running, cross-country skiing, nature study, and photography. Vertical rock faces, scattered trees, and rapids provide a dramatic setting for these activities.

Supplemental values in Bear Trap Canyon include spectacular scenery that contributes to all recreational activities, diverse vegetative patterns, and interesting geological features. Great Plains, Rocky Mountain, and Great Basin vegetation types provide interest for educational purposes. Rock formations and evidence of folding and other geological processes are of interest to lay geologists and geology students.

As shown in the "Resources" section of this document, no values would be impaired through designation of the study area as wilderness. Recreation use would have to be controlled to maintain natural conditions. Minerals in the canyon have little value, and those that do exist, building stone, for example, are plentiful elsewhere; thus, designation of the area as wilderness would not make any mineral unavailable.

The area could be determined not to be manageable because of the limited amount of usable surface area and stress on the accessible portions during the long term. If the study area was designated as wilderness, designation of adjacent lands in Beaverhead and Gallatin National Forests might be considered necessary for adequate management.

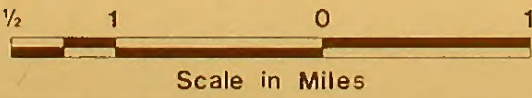




UNITED STATES DEPARTMENT  
OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**BEAR TRAP CANYON  
WILDERNESS INSTANT  
STUDY AREA**  
BUTTE DISTRICT  
**STUDY AREA  
CHARACTERISTICS**

LEGEND

- Study area boundary.
- Rangeland — Grass and brush, some meadows.
- Riparian/deciduous trees and/or meadow.
- Scattered trees.
- Open/Moderate/Dense canopy.
- Talus slope.
- Rock outcrop.



SOURCES: Baty, 1977; USDA, FS, 1977; USDI, BLM, 1979a; USDI, USGS, 1970; USDI, BM, 1979; USDI, USGS 15' quads Norris and Ennis, 1949; BLM, 1980.







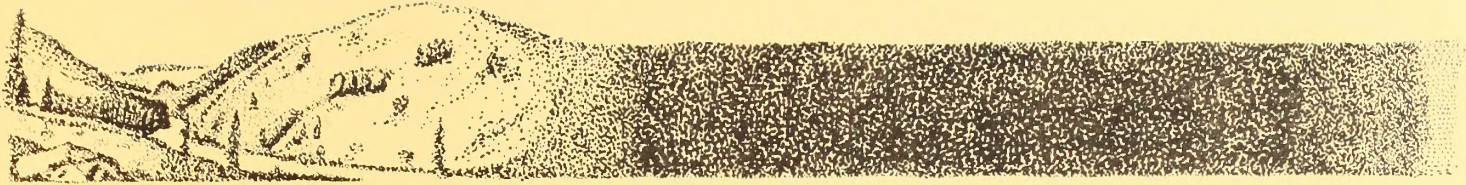








# ALTERNATIVES



## DESCRIPTION OF ALTERNATIVES

Two major alternatives are considered in this document. The first is designation by Congress of the entire study area or some portion of it as wilderness. The second alternative is no designation as wilderness (no action). Under the first alternative there are three subalternatives that would designate different areas within the Instant Study Area.

Alternative I-A, Designation of the Entire ISA, would include the wilderness designation 4,015 acres encompassing the original primitive area and the contiguous roadless area except for the areas that have been determined to lack wilderness characteristics. The boundary, which is shown on the Alternative 1-A map, follows the line between BLM-managed land and private land except at the north and south ends of the area. At the north end, the boundary follows a power line, the west bank of the Madison River, the original primitive area boundary, and the edge of a disturbed area that parallels the main road leading to the study area from the north. On the south end, the boundary follows a power line to the power station, then runs along the power station aqueduct and the access road.

Alternative I-B, Designation of the Original Primitive Area, would designate as wilderness 2,861.39 acres encompassing only the original Bear Trap Canyon Primitive Area designated in 1972. The boundary, which is shown on the Alternative 1-B map, excludes land north of the south 1/2, Section 15 and land south of approximately the north 1/4, Section 17.

Alternative 1-C, Designation of a Physiographic Unit, would designate as wilderness 5,719 acres within approximately the natural boundary of the canyon. This alternative differs from others in that contiguous national forest land is included. The dashed line on the Alternative 1-C map follows approximately the rim of the canyon north of the Montana Power Company dam. This is one of several possible configurations using natural features as a boundary.

A complete analysis and the final location of this boundary would necessarily depend on findings that will be reported in the draft EIS for the Madison Study Area, which the Forest Service expects to release in July 1980. However, the alternative has been considered because the National Environmental Policy Act requires examination of reasonable alternatives regardless of

whether or not the land involved is within the jurisdiction of the agency making the study. The use of a natural (physiographic) boundary is one such reasonable alternative for wilderness designation in Bear Trap Canyon. Any final recommendation to Congress of this alternative would depend upon a final boundary identification based in part upon Forest Service wilderness studies noted above. Such a recommendation would probably be prepared with appropriate involvement by both agencies.

Of the 5,719 acres that would be designated wilderness under this alternative, approximately 3,922 acres would be BLM-managed public land and 1,797 acres would be Forest Service land, 1,507 acres in the Gallatin National Forest and 290 acres in the Beaverhead National Forest.

## ANALYSIS OF ALTERNATIVES

The analysis of alternatives is based on more detailed information included in the "Resources" and "Management Considerations" portions of this document.

### Alternative I-A: Designation of the Entire Study Area

This alternative would provide protection of wilderness values for the largest area of land under BLM jurisdiction in the study area. Correspondingly, development of other resource values would be restricted over the largest area under this alternative. Almost the entire boundary would be along legal subdivisions that have little relationship to what people would perceive as making up the canyon. A boundary along legal subdivisions facilitates description of the boundary on paper, but such a boundary is not easily recognized by persons in or near the area. The area encompassed by this alternative is smaller than the physiographic unit that has meaning as a canyon to most people.

Under this alternative all of the area determined to possess wilderness characteristics, as described more fully in the wilderness intensive inventory, would be designated. (The text of the inventory appears in Appendix 3.) It includes none of the physiographically related land outside the ISA that the Forest Service is studying for wilderness suitability under the Montana Wilderness Study Act.



Two areas that are tenuously joined to the main portion of the ISA are included in this alternative: a narrow strip parallel to the access road on the north and part of section 30 on the south. These two areas would be difficult to manage because there are no steep slopes here to restrict eventual development on adjacent private lands. Development of the northwest corner of Section 29 would visually separate Section 30 from the remainder of the study area and deteriorate the coherence of the area.

Under this alternative, a management plan would be prepared with preservation of natural qualities as the highest objective. All other uses and activities would be subordinate to that objective and thus limited to the extent that natural qualities would remain unimpaired.

The previously designated Bear Trap Primitive Area has been withdrawn from mineral entry, and timber harvesting has been eliminated through previous actions.

It has been recognized that motor vehicles would create unacceptable soil and vegetation damage in Bear Trap Canyon, and that roads would destroy the qualities that make the area attractive. For these reasons, and because steep slopes in many places would make road construction too costly, permitting vehicle access is not considered viable whether the area is designated wilderness or not. The net effect of designation on motor vehicles would be the closure of 1,154 acres now open. The rest of the study area would be closed regardless of designation or nondesignation. Slopes of more than 60 percent make much of this portion unavailable for motor vehicle use.

Grazing would be permitted at current levels of use and modified in accordance with sound resource management principles and range conservation practices. The potential for livestock grazing currently is limited to areas beyond the rim of the canyon, which forms a natural barrier. This forage is not leased. Forage within the canyon is used by wildlife.

Recreation activities in Bear Trap Canyon would include hiking, camping, backpacking, fishing, hunting, rock climbing, river running, nature study, photography, cross-country skiing and snowshoeing. Other uses determined to be compatible with the objectives of wilderness management could be included. However, all recreation would be subject to limitations set forth in the management plan, so that the natural qualities of the area could be preserved.

Recreation values in the canyon are very high chiefly because of the outstanding scenery and the fishing in the canyon. The recreation value was a key element in the original designation of the area as a primitive area. However, recreation is limited to about 163 acres of usable area near the river with slopes of less than 30

percent. Other areas in the ISA with slopes flatter than 30 percent are not near the river and are virtually inaccessible because of the canyon walls. The concentration of use in the small accessible area predisposes the canyon to overuse and environmental damage. To prevent damage, use must be controlled by management actions.

The management responsibility for the canyon as a whole is divided between the BLM and the Gallatin National Forest. Approximately half of Section 4, T4S, R1E, from the river to the canyon rim lies in the forest. Differences in administration, regulation, and policy are possible, although efforts can be made to provide uniform management of the canyon. However, should one area be designated wilderness and the other remain undesignated, management difficulty could occur. Should the Forest Service lands not be designated, management of adjacent areas of the Gallatin and Beaverhead National Forests would probably be compatible with the BLM's management of the study area under this alternative. Options for providing access to the canyon from the south and the consideration of management actions affecting the logical physiographic extensions of the canyon on Forest Service lands would be inhibited without uniform designation or nondesignation of the physiographic area of the canyon.

While wilderness designation of adjacent Forest Service lands would enhance the attractiveness of the study area and facilitate uniform, flexible management, selection of this alternative would imply that the study area is a manageable unit without the Forest Service land. However, cooperation and coordination between the two agencies would be necessary.

Thermal pollution of the Madison River has not yielded to economically feasible solutions to date but is still under study. A possibility exists for loss of the cold water fishery and gradual change of the aquatic environment to a warm water fishery. The desirability of the area for fishing would then be diminished, and the area might be considered less desirable for public use.

Educational and scientific study of the canyon would be permitted if they were determined to be compatible with wilderness objectives. These studies would have to be judged on an individual basis except where these activities simply involved observation. Interest in the area for educational purposes was expressed by Montana State University during the process of designation of the canyon as a primitive area. Whether there is interest in this use now is not known. The area is not being considered for other use at this time, and designation would not affect any known transportation or utility corridors.

This alternative would permit fire suppression and insect control by means that would have the fewest



# BEAR TRAP CANYON WILDERNESS INSTANT STUDY AREA

ALTERNATIVE 1-A  
Designation of Entire  
Instant Study Area

R. 1 E.

R. 1 W.

T. 3 S.

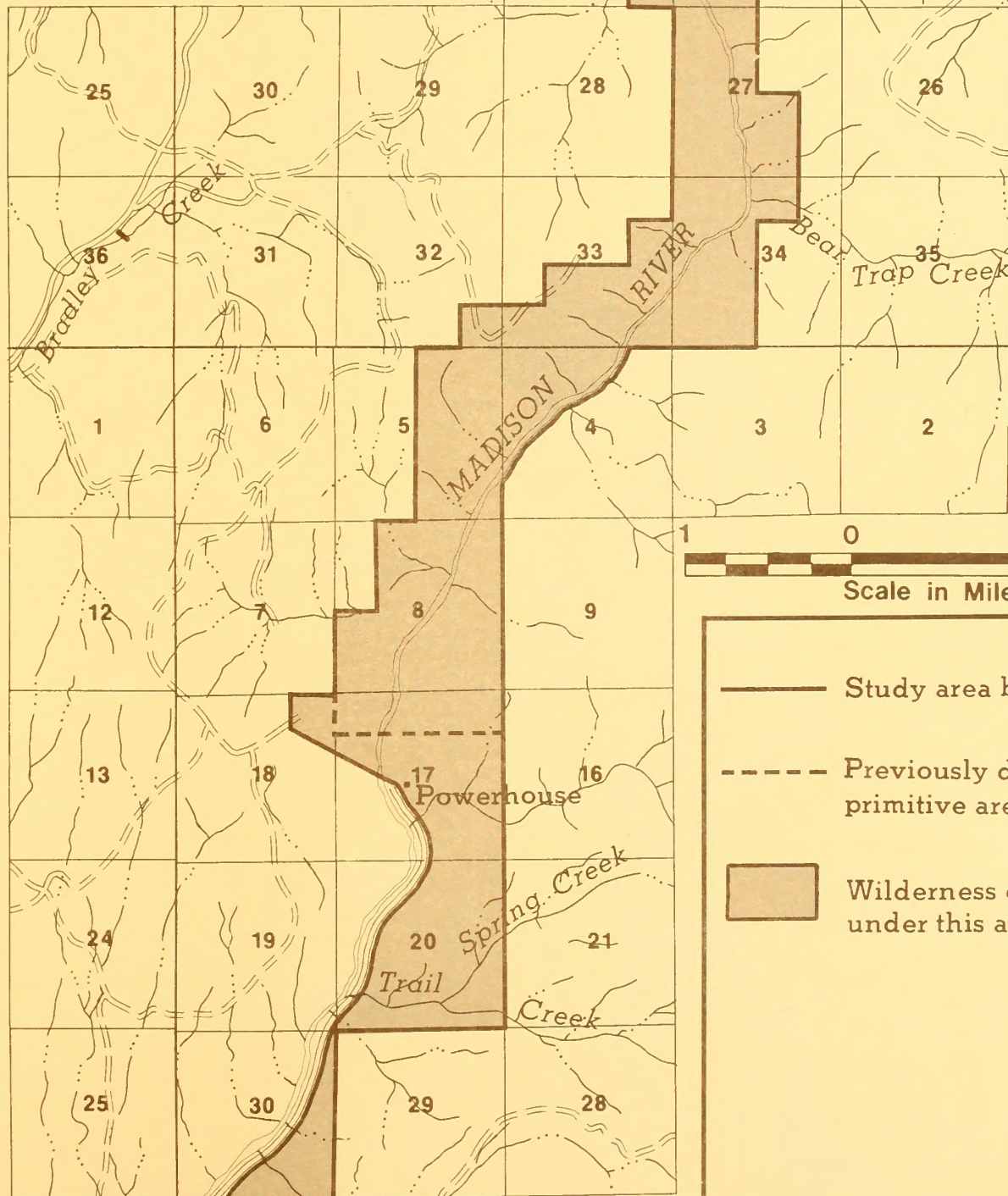
T. 3 S.

T. 4 S.

T. 4 S.

R. 1 W.

R. 1 E.



- Study area boundary.
- - - Previously designated primitive area boundary.
- Wilderness designation under this alternative.



# BEAR TRAP CANYON WILDERNESS INSTANT STUDY AREA

ALTERNATIVE 1-B  
Designation of Original  
Primitive Area

R. 1 E.

R. 1 W.

T. 3 S.

T. 3 S.

T. 4 S.

T. 4 S.

R. 1 W.

R. 1 E.



- Study area boundary.
- Previously designated primitive area boundary.
- Wilderness designation under this alternative.
- Other multiple use management.



**BEAR TRAP CANYON  
WILDERNESS INSTANT  
STUDY AREA**

**ALTERNATIVE 1-C**

Designation of  
Physiographic Unit

R. 1 E.

R. 1 W.

T. 3 S.

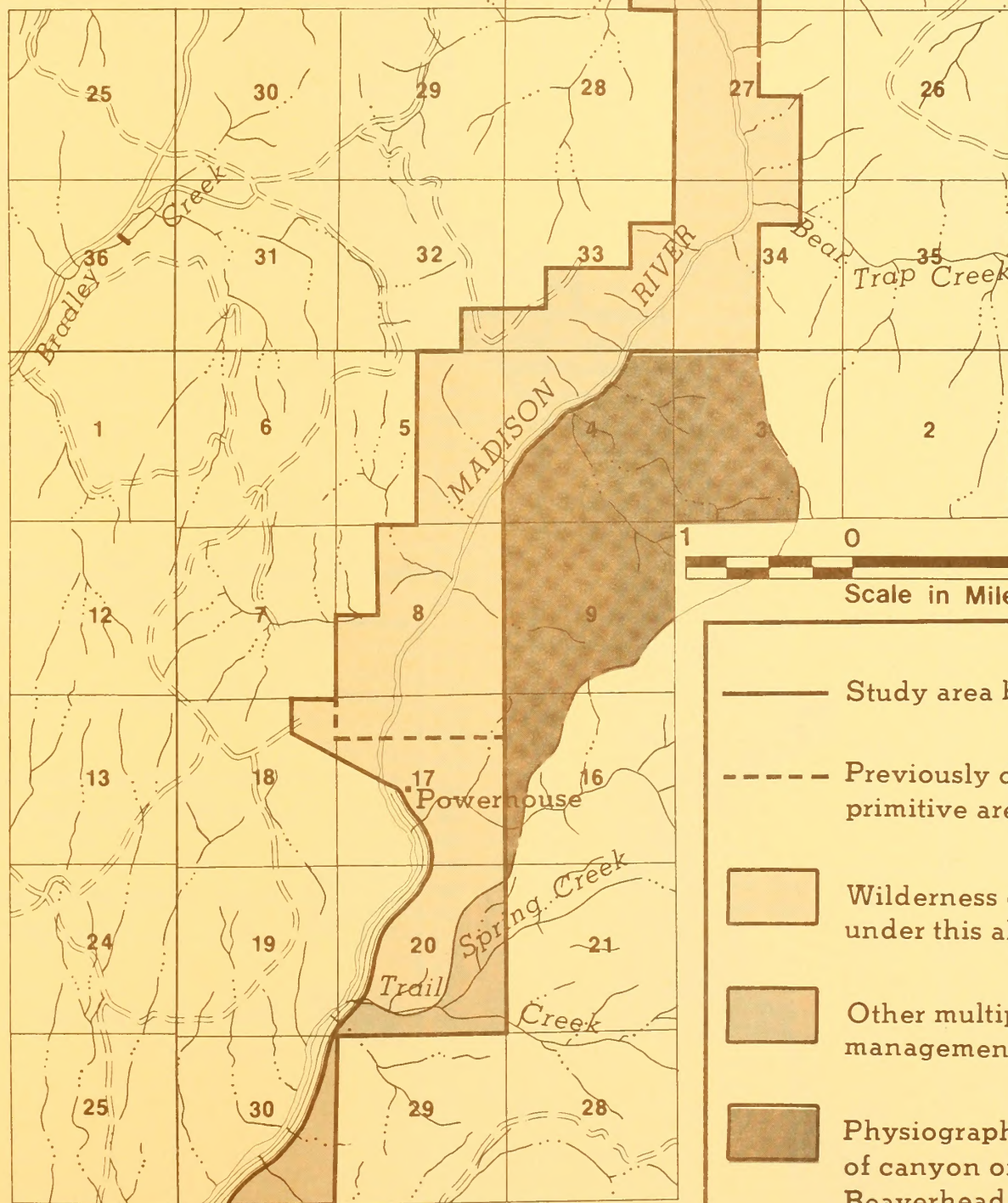
T.  
3  
S.

T. 4 S.

T.  
4  
S.

R. 1 W.

R. 1 E.



- Study area boundary.
- Previously designated primitive area boundary.
- Wilderness designation under this alternative.
- Other multiple use management.
- Physiographic extension of canyon on Gallatin and Beaverhead N. F.



# BEAR TRAP CANYON WILDERNESS INSTANT STUDY AREA

## ALTERNATIVE 2

No Wilderness  
Designation

R. 1 E.

R. 1 W.

T. 3 S.

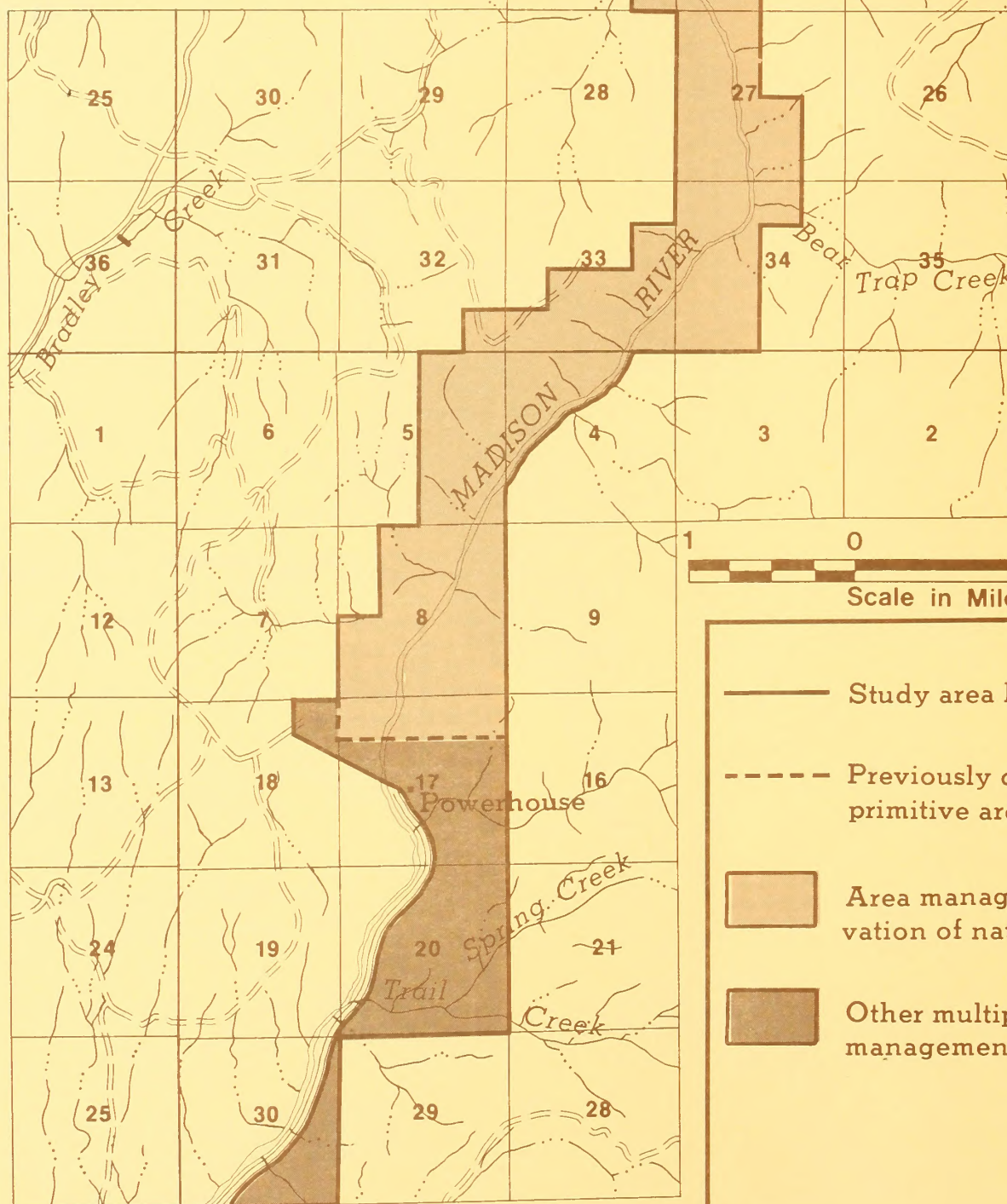
T.  
3  
S.

T. 4 S.

T.  
4  
S.

R. 1 W.

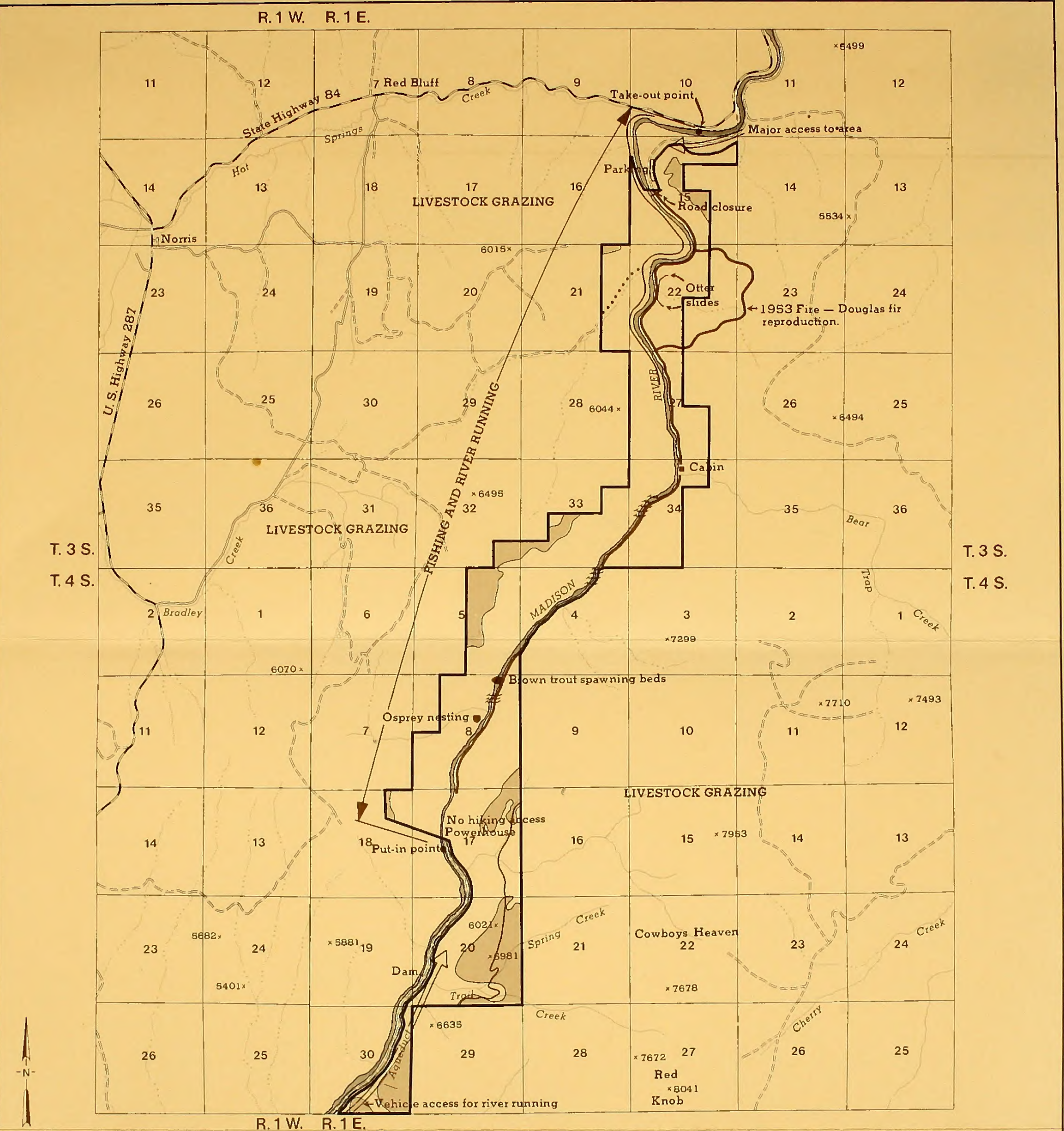
R. 1 E.



1 0 1 2  
Scale in Miles

- Study area boundary.
- Previously designated primitive area boundary.
- Area managed for preservation of natural qualities.
- Other multiple use management.



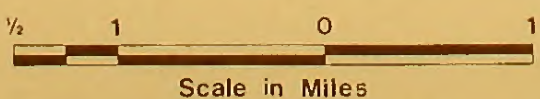


UNITED STATES DEPARTMENT  
OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**BEAR TRAP CANYON  
WILDERNESS INSTANT  
STUDY AREA**  
BUTTE DISTRICT  
  
**EXISTING LAND USE**

**LEGEND**

Study area boundary.	Major trail.
Livestock grazing.	Secondary trail.
Rapids.	Spur trail.

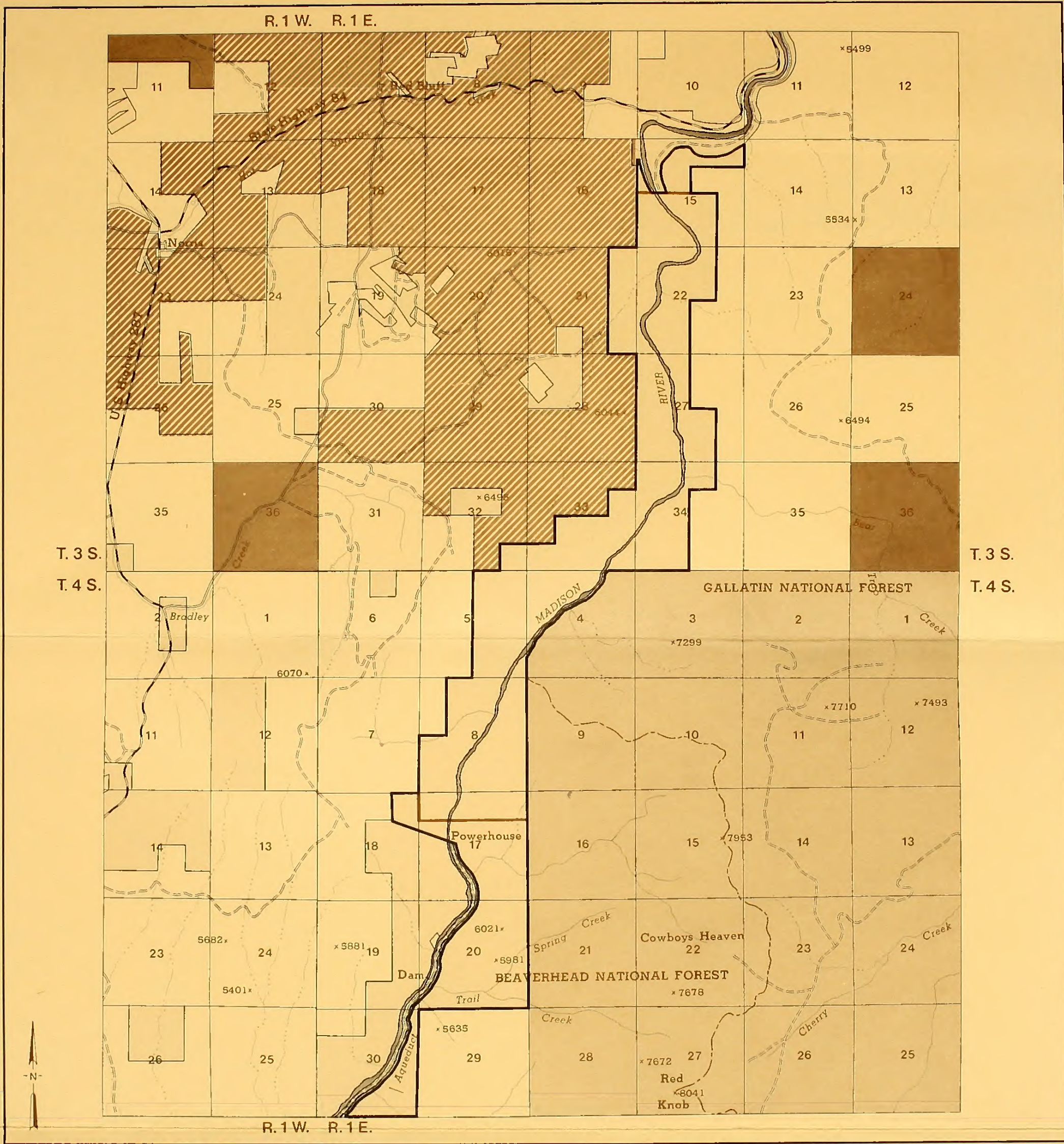
SOURCES: Baty, 1977; USDI, BLM, 1979a; USDI, USGS, 1970; USDI, BM, 1979; USDI, USGS 15' quads Norris and Ennis, 1949; BLM, 1980.











UNITED STATES DEPARTMENT  
OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**BEAR TRAP CANYON  
WILDERNESS INSTANT  
STUDY AREA**  
BUTTE DISTRICT  
  
**LAND STATUS**

**LEGEND**

- Study area boundary.
- Bureau of Land Management administered land.
- U. S. Forest Service administered land.
- Primitive area boundary.
- State of Montana administered land.
- Montana Agricultural Experiment Station land.
- Private land.

SOURCES: USDI, BLM, 1:100000 Ennis and Bozeman surface management map, 1975; BLM, 1980.







consequences in altering natural characteristics of the study area. These activities would be detailed in a management plan.

Under this alternative the area would be returned to a natural condition through removal of any evidence of human presence. The present trespass occupancy of the canyon would be eliminated, and the site would be restored to a natural appearance. Natural revegetation would be encouraged to accomplish this end.

### **Alternative 1-B: Designation of the Original Primitive Area**

This alternative is identical to Alternative 1-B except that wilderness designation would apply to a smaller area, 2,861.39 acres. Approximately 1,254 acres of the study area that has been determined to have wilderness characteristics would be managed under the existing MFP. Areas of high scenic value that are obviously part of the canyon would be excluded. The management of the designated portion of the study area would be identical with management as a primitive area.

Under any alternative, about 32.7 acres of timber in the original primitive would not be available for harvest, and the area is also closed to locatable mineral entry. This timber would probably not be of commercial interest because the direct income to the local economy would be only about \$103 per year.

Mineral exploration and development would be possible on 1,254 acres of contiguous roadless land outside the designated wilderness; however, that portion of the ISA has no known mineral value. A total of 102.54 acres of timber outside the designated wilderness would be available, but since the direct income to the local economy would be about \$325 per year, this timber probably would not be of commercial interest.

Off-road vehicle travel and the use of motor vehicles and motorized equipment would be permitted within this 1,240-acre area, but steep slopes would preclude these activities on most of that land.

The area in the ISA not designated wilderness under this alternative would be subject to the Madison River corridor management plan. The use of resources could be limited under this plan; thus, resources that would be forgone under wilderness designation might still be forgone through management decisions.

It is possible that land outside the area designated as wilderness in this alternative could be designated a natural area, a wild and scenic river, or a recreational river. Environmental, scenic, and other qualities also could be protected through designation of the land as an area of critical environmental concern. Any of these designations would require a process separate and

distinct from consideration of the area for wilderness designation, and discussion of suitability for any of them is beyond the scope of this document.

### **Alternative 1-C: Designation of a Physiographic Unit**

Under this alternative 5,719 acres of land under the jurisdiction of the Bureau of Land Management and the Forest Service would be designated as wilderness. The BLM has not inventoried the Forest Service land included in this alternative, and the Forest Service has not completed its study of the land involved, which is in the Gallatin and Beaverhead national forests.

Natural, recognizable features have been used to define the boundaries of the land that would be designated wilderness under this alternative. The area in Section 30 on the south has been excluded from this alternative because of the difficulty of management mentioned in the analysis of Alternative 1-A. Similarly, the small strip parallel to the access road on the north end of the area has been dropped. Trail Creek is used as a natural boundary at the south end, and that line is tied into a ridgeline that approximates the rim of the canyon. Ridgelines are used as the boundary through the national forest land. In areas adjacent to private lands, the legal boundary was used. Parts of the physiographic unit thus remain outside of the Alternative 1-C boundary, particularly on the west side of the canyon.

Because the study of the adjacent Forest Service lands is not complete, information concerning the resources of that area is not at the same level of detail or validity as that for the BLM land. The information required to draw resource conclusions about the national forest land, including a minerals report from the Bureau of Mines and the Geological Survey, U.S. Department of the Interior, will be available with the publication of the draft EIS for the Madison Study Area. However, BLM personnel became familiar with the area during the inventory of Bear Trap Canyon, and that familiarity is used to draw conclusions here.

The land in the national forests appears to have wilderness characteristics. No evidence of human work is apparent, and the area seems to possess outstanding opportunities for solitude and primitive recreation. Supplemental values are not known for this area.

The national forest lands are underlain by the same Precambrian geologic formation as the remainder of the canyon, so it is doubtful that mineral values would differ from those of the canyon itself.

About 650 acres of harvestable timber in the Gallatin National Forest and 130 acres in the Beaverhead National Forest are being considered. Assuming that



the productivity is the same as that studied on BLM lands, this acreage represents about 64,000 board feet per year that would be worth approximately \$2,500 per year in direct income to the local economy.

Grazing is known to be permitted on these Forest Service lands. It is expected that the use of forage would continue at the existing level, but this remains subject to Forest Service administration.

No other values are known for this area, but information on other uses is admittedly incomplete.

The consequences of designation on lands within BLM jurisdiction would be about the same as those of Alternative I-A, but the reduced area under consideration in this alternative would be more manageable. The sole difference is the exclusion of about 37 acres of timbered area, which represents about 3,000 board feet of timber per year with an approximate value of \$120 per year in direct income to the local economy. About 93 acres would not be closed to use by motor vehicles, but this area is not usable for this purpose because of steep slopes and dense vegetation.

## **Alternative 2: No Wilderness Designation**

This alternative would not designate any of the study area as wilderness. The primitive area would cease to exist if this alternative was selected. Management of the study area would be based on decisions in the Dillon Resource Area MFP, and this management would be substantially the same as under Alternative I-B. Existing withdrawals would remain in effect, and closure of the previously designated primitive area to motor vehicle use would be maintained. The proposed form of management of the previously designated primitive area is as a de facto primitive area. Other parts of the study area would be managed the same as under Alternative I-B.

Through the MFP process, the entire study area or parts of it could be considered for other forms of designation by the BLM and other federal agencies, as described under Alternative I-B. This alternative differs from Alternatives I-A and I-B in that the viability of the area as a manageable wilderness is irrelevant and is not implied.

## **COMPARISON OF ALTERNATIVES**

The management of Bear Trap Canyon would be similar whether managed as wilderness or as a de facto primitive area under MFP recommendations. Designation as wilderness would provide permanent protection for the natural qualities and experiences of the area designated. The permanence of management as a de facto primitive area is less certain.

Regardless of which alternative is selected, the original Bear Trap Canyon Primitive Area would be managed for preservation of its natural qualities under the MFP for the Dillon Resource Area. Any other portion of the ISA not included in the wilderness designation under Alternatives 1-B or 1-C would not be protected. If alternative 2 was selected, only the original primitive area would be managed to preserve its natural qualities. However, any portion of the study area excluded from wilderness designation would be managed as part of the Madison River corridor under the MFP. Should the corridor management plan not provide for preservation of natural qualities, it is still unlikely that any change would occur because of the small resource potential of these areas and the limitations imposed by steep slopes.

## **Land Use and Resource Consequences**

Since mineral values are low in Bear Trap Canyon, development would be unlikely even if the area was not withdrawn from mineral entry; thus, the consequences from mineral development would be similar under any alternative. However, considerable prospecting was done in the canyon before the Bear Trap Canyon Primitive Area was established. If this activity should be resumed, adverse environmental consequences could result.

Information on the mineral values of the national forest land included in Alternative 1-C will not be available to the BLM until the Forest Service completes the Madison Study Area EIS; however, the values are not expected to differ substantially from those on the BLM land in Bear Trap Canyon.

Timber resources in Bear Trap Canyon are minimal. Although more study would be required to determine the cost/benefit of harvesting, it is not likely that the timber value could be realized commercially because of the costs of harvesting and providing access to the small separated tracts in the study area. The consequences resulting from any alternative would probably be the same because of the low values involved.

Little potential exists in the study area for recreational use of off-road vehicles. Areas of interest are generally too environmentally sensitive for this activity to be permitted. Few areas would be closed where vehicles could be used in conjunction with livestock management on adjacent lands. If the area was not designated wilderness, no off-road vehicle use would be permitted in the original primitive area under the Management Framework Plan. In portions of the ISA not in the original primitive area, steep slopes and dense vegetation would make the use of motor vehicles unlikely under any alternative.



TABLE 2  
COMPARISON OF ALTERNATIVES

	Alternative 1-A Designate Entire ISA	Alternative 1-B Designate Primitive Area	Alternative 1-C Designate Physiographic Unit <sup>a</sup>	Alternative 2 No Designation
Acres designated wilderness	4,015	2,861	5,719	0
Acres managed with protection of natural quality as highest priority	4,015	2,861	5,719	2,861
Minerals values foregone	none	none	none	none
Timber values foregone				
Approximate board feet per year	11,100	2,700	72,100	2,700
Approximate direct income per year to local economy	\$425	\$103	\$2,800	\$103
Other resource values foregone	none	none	none	none
Environmental consequences	No significant effects	No significant effects	No significant effects	No significant effects
Air	High quality maintained	High quality maintained	High quality maintained	High quality maintained
Water	High quality maintained	High quality maintained	High quality maintained	High quality maintained
Soil	Existing situation maintained	Existing situation maintained	Existing situation maintained	Existing situation intained
Vegetation	High quality maintained	High quality maintained	High quality maintained	high quality maintained
Fisheries	Decline anticipated <sup>b</sup>	Decline anticipated <sup>b</sup>	Decline anticipated <sup>b</sup>	Decline anticipated <sup>b</sup>
Wildlife	High quality maintained	High quality maintained	High quality maintained	High quality maintained
Quality of life	High quality maintained	High quality maintained	High quality maintained	High quality maintained
Scenery	High quality maintained	High quality maintained	High quality maintained	High quality maintained
Cultural resources	No effect	No effect	No effect	No effect
Economics				
Local	No effect	No effect	No effect	No effect
Regional	No effect	No effect	No effect	No effect
Agriculture				
Farming	No effect	No effect	No effect	No effect
Ranching	No effect	No effect	No effect	No effect
Recreation	High quality maintained	High quality maintained	High quality maintained	High quality maintained
Timber	Insignificant effects	Insignificant effects	Insignificant effects	Insignificant effects
Other land uses	No effect	No effect	No effect	No effect
Wilderness qualities	Minor improvement <sup>c</sup> of 4,015 acres	Minor improvement <sup>c</sup> of 2,861 acres; possible decline of 1,154 acres	Minor improvement <sup>c</sup> of 5,719 acres; possible decline of 93 acres	Minor improvement <sup>c</sup> of 2,861 acres; possible decline of 1,154 acres

SOURCE: BLM, 1980.

a. Includes estimates for national forest land, which are based on little information and on assumptions described in the "Resources" section.

b. The anticipated decline would be related to thermal pollution in Ennis Lake, above Montana Power Company dam.

c. The improvement would be effected through removal of features constructed by humans.



Limits on the intensity of recreational use would probably be imposed under any alternative to prevent deterioration of the area. The restrictions probably would be more stringent under Alternatives 1-A, 1-B, or 1-C than under Alternative 2. Portions of the ISA not designated wilderness under Alternatives 1-B or 1-C would be managed under the Madison River corridor management plan, and both the provisions of the plan and the physiographic limitations of the area probably would offer protection. Forest Service land in Alternative 1-C would offer additional opportunities for recreation, improving the manageability of the canyon.

## **Environmental Consequences**

Environmental consequences under any of the alternatives would not be significantly different. The intent under all alternatives is preservation of the natural qualities of the area. Under all of the alternatives, a fire suppression policy would permit some forested areas to become senescent but would also promote vegetative diversity, a benefit to wildlife, by preventing a total burn. Designation of the area through Alternative 1-A, 1-B, or 1-C could provide more impetus to resolve environmental changes created by the Montana Power Company's reservoir and dam but would not mandate this action.

Management under any alternative would provide environmental benefits for wildlife, watershed, and scenic values. Maintenance of an area of natural diversity would provide knowledge of educational and scientific value for future generations.

## **Social Consequences**

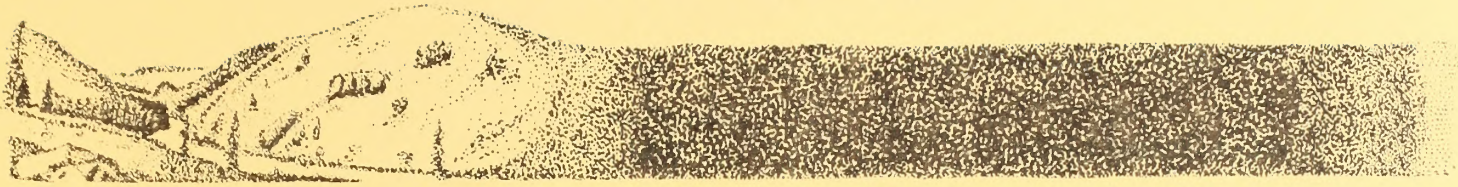
Opportunities for recreation and solitude in a natural area with outstanding scenery would be preserved for the enjoyment of future generations under any alternative. The material well-being of the public would remain unaffected under any alternative because of the limited resource values of the area.

## **Economic Consequences**

The economic consequences of all alternatives would be similar. The resource value of minerals and timber is low, and the area's limitations, particularly the steep slopes, make it economically undesirable. The economic potential of this area is insignificant relative to the regional economy, as discussed in more detail under the analysis of each alternative in the "Alternatives" section.



# RESOURCES



## WILDERNESS

The Bear Trap Canyon Study Area is a roughly north-south oriented strip of public land bounded by private land on the west, private and Forest Service lands on the east, and other BLM public lands that have been determined to lack wilderness quality on the north and south (see the Land Status map). The boundary generally falls short of the canyon rim but includes most of the area that is seen from the bottom of the canyon. A significant exception is a stretch in the middle of the canyon (Section 4, T4S, R1E) that is part of the Gallatin National Forest.

The only trailhead can be reached from the north over a poorly developed dirt road leading south from Montana Highway 84. Rafts and boats can be launched upriver from the powerhouse at the south end of the canyon. Auto travelers from the west can go south from Interstate 90 on U.S. 287 and east on Montana 84; travelers from the east can leave I-90 at Bozeman and go west on Montana 84.

A little more than 3 percent of the land in Montana, Idaho, and Wyoming has already been designated by Congress as wilderness, and more than double that amount is under some phase of wilderness consideration (see tables 3 and 4). Existing wilderness areas are generally associated with the mountain ranges of the west—the Rockies, the Sierra Nevada, the Cascades (see the Existing Wilderness and Related Land Designations maps). The Bear Trap Canyon fits this pattern.

Existing wilderness areas east of the Continental Divide in southwestern Montana are the Anaconda-Pintlar Wilderness (Forest Service, U. S. Department of Agriculture) and the Red Rock Lakes Wilderness (U. S. Fish and Wildlife Service). These areas average 73,017 acres each. The Forest Service has proposed for wilderness designation seven areas averaging about 27,000 acres, or 188,998 acres total. Additional acreage under further study by the Forest Service amounts to about 763,500 acres. The BLM intensively inventoried 338,273 acres in the Dillon Resource Area as part of its wilderness review program; of this, 94,108 acres have been designated wilderness study areas. The period during which this final decision can be appealed ends April 30, 1980. How much additional wilderness will result from these studies is not known.

The intensive inventory (Appendix 3) details the wilderness qualities of the area. Bear Trap Canyon's current high degree of naturalness could be endangered by overuse because of the small area that is usable. The naturalness has been preserved well because of the ISA's topography. The regrowth on portions of an old jeep road seems to indicate that existing human imprints will return to a natural state if disturbed areas are left alone. The removal of a cabin, some old car bodies, and some trash would be necessary, but the vegetative growth is lush in the vicinity of these imprints, so that the area could quickly recover after their removal.

The key values of Bear Trap Canyon are scenic and recreational. Views within the area are contained by the high canyon walls. Views from the canyon floor are unlikely to change because steep slopes limit the possibility of development.



Looking south toward the upper end of the canyon. Trail on the east side of the canyon can be seen in the middle distance.

The Madison River is the focus of recreational opportunities in Bear Trap Canyon. Because only a small portion of the study area is usable for recreation, its naturalness could be endangered by overuse. Fishermen have created trails along the river and small spur trails from the main trail to the river. These have contributed to site degradation. Overuse of the fishery, especially through floating, could reduce fish populations so that the quality of fishing would be poorer.



TABLE 3

## EXISTING WILDERNESS IN IDAHO, MONTANA, AND WYOMING

Wilderness Area	Administering Agency <sup>a</sup>	Acreage
<u>Montana</u>		
Absaroka-Beartooth	USFS	904,500
Anaconda-Pintlar	USFS	158,516
Bob Marshall	USFS	1,009,356
Cabinet Mountains	USFS	94,272
Gates of the Mountains	USFS	28,562
Great Bear	USFS	285,700
Mission Mountains	USFS	73,877
Scapegoat	USFS	239,936
Selway-Bitterroot	USFS	251,443
Welcome Creek	USFS	28,440
Medicine Lake	FWS	11,800
Red Rock Lakes	FWS	32,350
U L Bend	FWS	20,847
<u>Idaho</u>		
Gospel Hump	USFS	206,000
Hell's Canyon	USFS	84,100
Sawtooth	USFS	217,367
Selway-Bitterroot	USFS	983,638
Craters of the Moon	NPS	43,243
<u>Wyoming</u>		
Bridger	USFS	392,160
Fitzpatrick	USFS	191,103
North Absaroka	USFS	351,104
Savage Run	USFS	14,940
Teton	USFS	557,311
Washakie	USFS	687,132

SOURCE: Finkelstein, Mark, *Status of the National Wilderness Preservation System* (n.p.: The Wilderness Society, 1978).



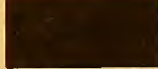

a. FWS = Fish and Wildlife Service, U. S. Department of the Interior; NPS = National Park Service, U.S. Department of the Interior; USFS = Forest Service, U. S. Department of Agriculture.





## EXISTING WILDERNESS AND RELATED PUBLIC LAND DESIGNATIONS

### BEAR TRAP CANYON W.I.S.A.

-  National Parks, Monuments, and Recreation Areas.
-  National Wildlife Ranges and Refuges.
-  Existing Wilderness.
-  Interstate Highway System.

SOURCES: USDA, FS, National Wilderness Preservation System and Recommended Allocation of RARE II Areas, map, 1979; USDA, FS, Roadless and Undeveloped Area Evaluation II, Northern Region, RARE II, map, 1978; USDI, NPS, National Parks of the United States, map, 1978.







TABLE 4

EXISTING WILDERNESS AND LAND UNDER WILDERNESS CONSIDERATION<sup>a</sup>

	Bureau of Land Management	Forest Service	Fish and Wildlife Service	National Park Service
	Thousands of Acres			
<u>Montana</u>				
Current wilderness	0	3,074	65	0
Under wilderness consideration	2,204	1,906	160	935
Total agency acreage	8,140	16,090	1,174	1,154
<u>Idaho</u>				
Current wilderness	0	1,491	0	43
Under wilderness consideration	3,275	2,867	0	0
Total agency acreage	11,949	20,354	89	55
<u>Wyoming</u>				
Current wilderness	0	2,194	0	0
Under wilderness consideration	1,186	922	0	2,156
Total agency acreage	17,793	8,757	75	2,390

SOURCES: Finkelstein, Mark, *Status of the National Wilderness Preservation System* (n.p.: The Wilderness Society, 1978); The Wilderness Society, *National Wilderness Preservation System* (map and tables, 1978); U.S., Department of the Interior, Fish and Wildlife Service, *Annual Report of Lands under the Control of the U.S. Fish and Wildlife Service* (n.p.: 1978). Information also was obtained by personal communication with Fish and Wildlife Service personnel Bob Ballou, Billings, and Bob Burkholder, Portland; Forest Service personnel Don Schultz, Ogden, Utah; Ray Hunter, Missoula, Montana; and Merle Prinze, Denver; also Wayne Gardner, National Park Service, Denver, and Gary Leppart, Bureau of Land Management, Billings (February 1980).

a. All figures are as of February 1980.





Fishing in the upper end of the canyon. More fishing spots are accessible by raft.

Opportunities for primitive recreation are outstanding, but the limited amount of area available makes it possible for only a limited number of people to enjoy those opportunities if deterioration through overuse is to be avoided.

The scientific values of the study area are low, but are of interest for educational purposes, particularly in geology and the life sciences. The proximity of the area to Montana State University makes its use as an outdoor classroom feasible. The university expressed interest in this area during the process of designation of Bear Trap Canyon Primitive Area; its current interest in using the area in this way is unknown.

Access to areas of interest in Bear Trap Canyon is severely limited by steep slopes and in some areas by dense vegetation. The only major trails are one parallel to the river and one along the rim of the canyon in the southeast corner of the ISA. Concentration of use along the river disposes that area to overuse. Approximately 147 acres near the river are accessible by trail.

Opportunities for solitude are greater away from the river, but wilderness users must be determined to overcome the physical barriers that impede movement. The canyon trail ends short of the powerhouse, so the same trail must be used to return to the trailhead. This access pattern limits areas that are usable in terms of slope.

Four places have slopes of less than 60 percent, so that ascension to the top of the canyon walls might be possible. However, vegetation in these flat areas is dense in places, so that trail construction might be necessary if access to more of the study area is to be made possible.

Should the Bear Trap Canyon study area be designated as wilderness, its manageability could be impaired if some adjacent Forest Service land was not also designated. Manageability also could be impaired by incompatible uses, such as extensive timber harvesting, in certain key areas along the corridor. Such activities could cause the area to be unsuitable for designation as wilderness.

The ability to manage recreation depends to some degree on options for dispersing use and providing access, particularly from the south. Independent of the wilderness designation issue, close cooperation with the Forest Service would be necessary for adequate visitor management, and activity planning should be carried out jointly by the BLM and the Forest Service.

The current occupancy of the canyon is not an issue because this use is clearly illegal and would need to be discontinued in any event.

## AIR

No information on air quality is available for the study area. It is currently designated Class II under the Clean Air Act Amendment. If the area were designated Class I, less deterioration from the present air quality would be permitted than under class II. The wilderness review process and the process of air quality classification are separate, and wilderness designation does not necessarily imply higher air quality standards. Any change in the air quality designations would be the prerogative of the Montana state government.

The primary potential sources of air pollution are forest fires and slash burning. Other sources of air pollution are not noticeable from a sensory standpoint, but it cannot be inferred from this that no pollutants are present. Prevailing southwest winds would carry pollutants from industrial sources in Butte and Anaconda away from the study area, and the canyon's long distance from these potential sources makes air quality degradation unlikely. No other sources of degradation of the area's air quality are known.

Slash burning could create short-term influences on air quality under certain wind conditions, but it is short-lived and not considered likely to interfere with wilderness experience because of the distance between the canyon and potential upwind forestry activity.

The present air quality of Bear Trap Canyon is an amenity and is compatible with wilderness experience.

## SOILS

Bear Trap Canyon is a north-south gash through the plateau at the northwest end of the Madison Range.



The east side of the canyon is cut by side drainages at about right angles to the canyon. Fewer side drainages cut the west side. Canyon walls are therefore exposed east and west, and the walls of the side drainages are oriented north and south. This orientation influences vegetation patterns and soil development, and the diversity of slope directions has promoted a diversity of ecosystems that are attractive for nature study, photography, and wilderness experience.

South and southwest-facing slopes tend to be dryer than north-facing slopes, and the vegetation on those facing south or southwest is scattered trees, sagebrush, and grass. This is due to the amount of solar radiation on the slope and its influence on snow accumulation and melting. Some very steep slopes and rock outcrops have no vegetation.

Most upland slopes in the study area are 30 percent or steeper. Plateau areas near the top of the canyon typically have slopes between 8 and 30 percent. The steepness of much of the study area limits its possible uses. Livestock could be grazed without serious environmental consequences in parts of the area above the canyon where slopes are no steeper than 30 percent. The rest of the area is poor for livestock grazing and also for commercial forestry, because of low soil productivity.

Steep slopes increase the potential for soil erosion, but they also deter use by hikers and others. No degradation is evident in most of the study area, but some damage has been done by small trails along the river and from the main trail to the riverbank. This damage should be monitored, and alternative means of providing access to the riverbank should be sought.

Soils have developed from Precambrian materials in the uplands and from alluvium in the drainages. Upland soils support conifers with a grass understory. They are associated with rock outcrops and include some areas of scree and talus. Talus or rocky areas tend to be vegetated with scattered trees, but pockets of aspen stands may be seen. Scattered trees, primarily junipers, take on a savanna-like appearance and have been labeled as such on the Study Area Characteristics map.

Soils in the drainages are deep and well-drained and are on slopes of less than 25 percent. These soils support dense and sometimes lush vegetation, usually cottonwood, with grass and shrub understory. They are not particularly susceptible to erosion and are tolerant of compaction. Slopes of 30 percent or steeper have a potential for erosion, so most of the canyon would be subject to erosion if vegetation was removed (see the Study Area Limitations map). Because of rock and gravel in the soil, large-scale gully erosion is unlikely.

## WATER

The Madison River flows through the study area and combines with the Jefferson and Gallatin Rivers 24 miles north, at Three Forks, to form the Missouri River. Five creeks feed the Madison as it passes through the study area: Barn Creek, Trail Creek, Fall Creek, McLain Creek, and Bear Trap Creek.

The Madison River in Bear Trap Canyon is regulated by the dam and power plant of the Montana Power Company. Above the dam, water is stored in Ennis Lake, which is quite shallow. The July-August mean water temperature in the river above the reservoir is approximately 59.8 degrees Fahrenheit; in the shallow reservoir, the mean temperature increases to 66.6 degrees Fahrenheit. These increased water temperatures affect the trout habitat in the canyon.

Regulation of flow from the reservoir also influences the canyon and its fisheries. The high flow releases from the reservoir are comparatively low to protect the Quake Lake outlet. These flows may not adequately flush sediments from the bottom of the river, and this, in turn, influences the fishery.

The Montana Department of Fish, Wildlife, and Parks has appropriated 900 cubic feet per second (cfs) from January 1 to May 30, and 1,400 cfs from June 1 to December 31, for instream flow to provide protection for aquatic life. However, these measures do not provide an answer to the problem of thermal pollution.

The complex problems associated with thermal pollution and silt accumulation will require considerable study before a solution can be found. The thermal pollution issue is under study by the Montana Department of Fish, Wildlife, and Parks Task Force on Thermal Pollution on Ennis Lake. Representatives of Montana Power, Montana Fish, Wildlife, and Parks, the BLM, and others serve on the task force.

Since the river is a focus of recreation and scenic attraction in the study area, the problems of thermal pollution and sediment buildup will influence the desirability of the canyon for recreation. The resolution of problems associated with the Montana Power Company facility would enhance experiences along the river, particularly for those who fish.

Water quality information is scant, but the Madison River in the study area is thought to be fairly free from pollution. Use of river water for drinking without treatment is discouraged, however, and use of the water from tributaries of the Madison in the study area is also discouraged because of upstream livestock and wildlife use.

As described, the Madison River is used for power



generation just upstream from the study area. River running and fishing are popular in Bear Trap Canyon, and the river water is used for irrigation downstream from the study area. Further large-scale demands for agricultural irrigation are not likely, because this resource use has already been developed. The present use of water for agriculture and hydroelectric power are important to the local economy and to the economy of southwestern Montana.

## FISHERIES

The Madison River, which flows through Bear Trap Canyon, is classified a "blue ribbon" trout stream by the Montana Department of Fish, Wildlife, and Parks. This highest possible classification indicates that this section of the river is of national significance. The primary game fish species are rainbow trout, brown trout, and mountain whitefish. Brook trout, cutthroat trout, and Montana grayling are also found in this stretch of the river, but they are rare. In quieter pools and eddies, a careful observer can often see trout and whitefish rising for insects.

There are six nongame fish in this portion of the river: long-nose sucker, white sucker, mountain sucker, long-nosed dace, Utah chub, and mottled sculpin. It is suspected that the stone cat and carp also occur, but their presence has not been confirmed (Vincent 1979).

Tributaries to the Madison in this area are too small to support significant fisheries. No rare or endangered aquatic species have been reported.

The fishery enhances the wilderness suitability of the area through its contribution to the recreational and aesthetic experiences and its ecological importance. It serves as a food base for the small numbers of ospreys and river otters in the area.

Current fishing pressure on this part of the Madison River is considered high, and it is anticipated that pressure will increase rapidly in the near future. Fishing on the Madison River above Ennis Lake, particularly on the stretches between Quake Lake and the town of Ennis, have increased so rapidly in recent years that the Montana Department of Fish, Wildlife, and Parks has had to impose severe bag limit and fishing method restrictions. Temporary closures of some stretches have also been necessary in order to protect the fishery.

Since it would be desirable to maintain a high quality fishery in Bear Trap Canyon regardless of any designation or nondesignation as wilderness, the management plan probably would address means of protecting the fishery through cooperation with the Department of Fish, Wildlife, and Parks. A specific concern is the impact that increased float fishing would have on fish populations and fishing quality on the west side of the

river. Most of the west side is seldom fished because of its relative inaccessibility.

The value of the fishery could be greatly reduced by the influence of the Montana Power Company dam on the Madison River immediately above the study area. Ennis Lake, which averages only 9.2 feet in depth, is created by the dam. In the summer, the water temperature in the lake warms to levels not conducive to trout growth. Since Ennis Lake is gradually silting in, if nothing is done, the problem will become more serious and the fishery could gradually be transformed to a warm water fishery. Carp, suckers, and possibly bass would replace the trout, and the trout fishery would cease to exist in its present relatively natural form. The Department of Fish, Wildlife, and Parks is negotiating with Montana Power and other interested parties in an effort to work out a solution to the problem, but so far no economically feasible answer has been proposed.

## WILDLIFE

Bear Trap Canyon offers diverse wildlife habitats that provide optimum conditions for many wildlife species; thus, there is a large variety of wildlife species in the area. Habitat diversity is due to abrupt changes in altitude, slope, and aspect and to the effects of several small fires.

The presence of a large variety of wildlife species adds greatly to the wilderness or recreational experience. Bear Trap Canyon, particularly in the timbered upper portions where there is less evidence of human activity, is nearly ideal for wildlife observation.

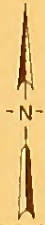
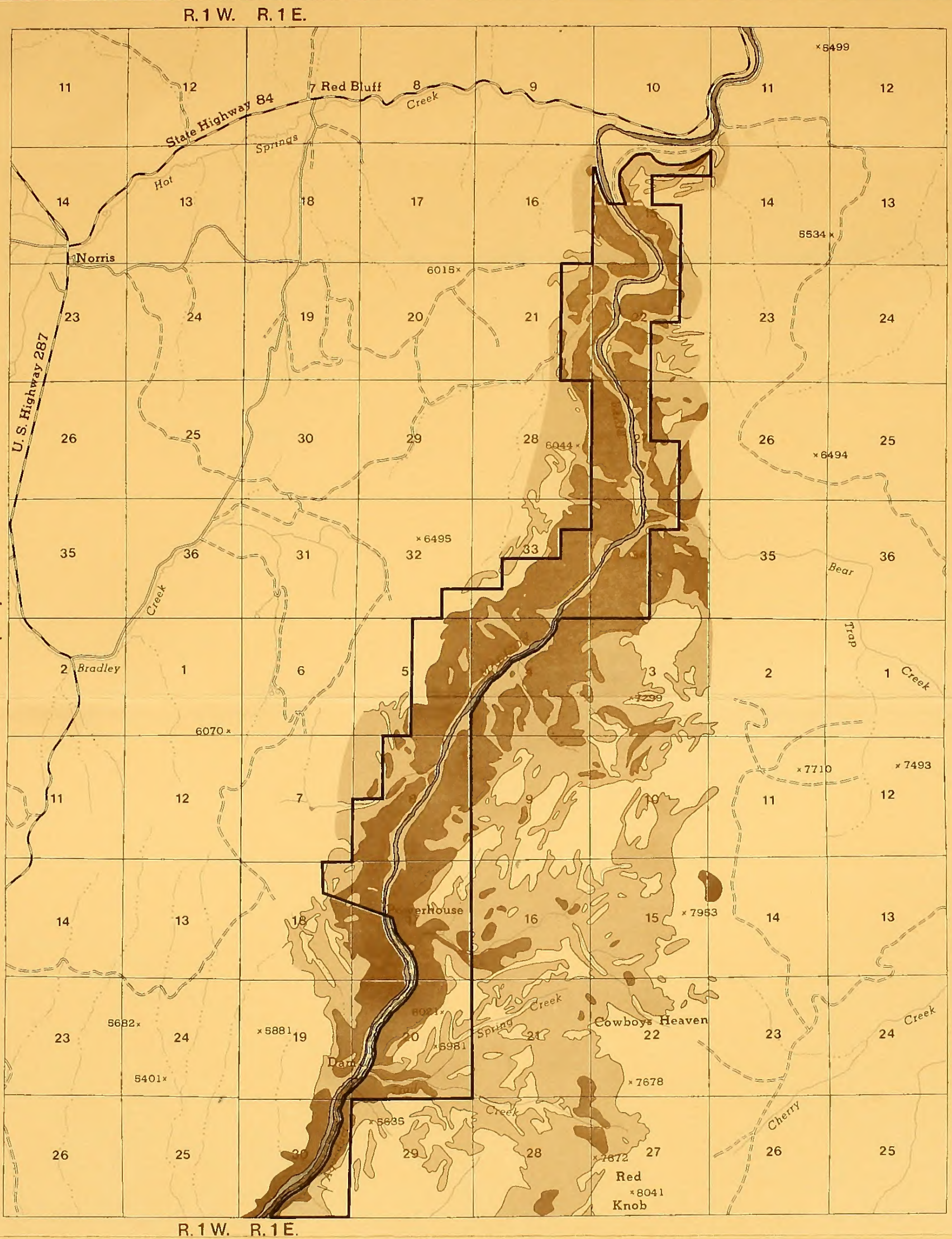
Two species of particular importance to visitors are the osprey and the river otter. Although relatively few visitors actually see these animals, the possibility of seeing an osprey or an otter greatly enhances the area's appeal. An unconfirmed osprey nest site and an area of otter slides are shown on the Study Area Characteristics map.

Mule deer are the major big game species in the study area. They occur throughout the ISA but are more concentrated in the timbered areas. Mule deer hunting in the study area is considered outstanding.

About 12 mountain goats inhabit an area on the east side of the river that extends about 3 miles south of Bear Trap Creek. A considerable portion of this habitat is managed by the Forest Service in areas adjacent to the east boundary of the study area.

Prairie rattlesnakes are one of the natural hazards of the area. They occur throughout the study area and are perhaps most common on talus slopes. It is not uncommon to encounter a rattler in sunny spots along





UNITED STATES DEPARTMENT  
OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**BEAR TRAP CANYON  
WILDERNESS INSTANT  
STUDY AREA**  
BUTTE DISTRICT  
**STUDY AREA  
LIMITATIONS**

#### LEGEND

— Study area boundary.

□ Slopes 0—30%.

□ Slopes 30—60%.

□ Slopes 60%+.



SOURCES: USDI, USGS 15' quads Norris and Ennis, 1949;  
BLM, 1980.







the trail on the east side of the river. Except in winter when rattlesnakes are inactive, they may represent a danger to visitors; however, no instances of snake bite in the area have been brought to the BLM's attention within the past ten years.

The steep cliffs common throughout Bear Trap Canyon provide ideal nesting and hunting habitat for several species of raptors. It is not uncommon to see golden eagles and prairie falcons in the area. Bear Trap Canyon is being considered as a possible location for reintroduction of the endangered peregrine falcon.

Other wildlife in the area are coyote, fox, bobcat, weasel, least chipmunk, red squirrel, porcupine, and mountain cottontail. Several species of small rodents are present. Birds in the area in addition to the raptors already mentioned are spruce, blue, and ruffed grouse and numerous small nongame species.

A number of the wildlife species that occur in the study area can be found in several other locations in southwestern Montana. Some that do not occur regularly in the area, such as antelope, may be found in adjacent lands and may occasionally occur in the area itself. No rare or endangered species are known to inhabit the area.

The continuation of conditions that encourage the presence of varied wildlife would be enhanced by preservation of the natural characteristics of this area. An area set aside for management in a natural condition would benefit animals that have a limited tolerance to human disturbance. Animals that prefer climax vegetation would benefit the most, while those that prefer early or midsuccessional vegetation stages would benefit the least.

Active fire suppression usually reduces fire-created diversity; however, fire suppression in a small, narrow area such as Bear Trap Canyon could act in favor of diversity. A burn of the entire area would have a somewhat homogenizing effect. Occasional small fires, which are possible even under a program of active suppression, would help to maintain existing diversity.

## CULTURAL FEATURES

### Historic Features

The area around Bear Trap Canyon ISA began to be developed when the gold rush occurred in Virginia City and other southwestern Montana locations. Scanlan's Toll Bridge was built in the 1890s in Section 2, T3S, R1E, north of the ISA. This wooden structure was replaced in 1906 by another bridge whose pilings are still visible.

The Red Bluff mining district and stagecoach station was west of the study area. It was an overnight stop on the Bozeman-Virginia City stage route. There were three large ranches in the vicinity of Bear Trap Canyon: Alexander Norris to the west, James McAllister along Meadow Creek to the south, and Charles Alceney's "Flying D" to the east.

The Madison River Improvement Company surveyed the canyon about 1900 for power generating plant sites. Three sites were located: (1) the present site of the dam, (2) the location of the new powerhouse, and (3) at the mouth of Bear Trap Creek. A dam and power station were in operation in 1906, and site 3 was tested in 1907 for geological suitability for a second dam. Some evidence of this testing is still visible along the trail south of the creek. In 1908, three employees of the company filed a claim on 160 acres of Section 34, T3S, R1E. Their patent was denied in 1915, as the validity was questioned. Plans for the second dam were stopped in the same year because of financial instability in Butte.

The three employees had built a road to Bear Trap Creek from Montana Highway 289 (now Montana 84); three cabins were built, and earth on the north bank of Bear Trap Creek was moved. Today, one cabin and the tailings remain. The cabin is historic, but it is not of high historical significance because alterations have destroyed much of its original integrity.

### Archaeological Features

An archaeological inventory was conducted in October 1977. The survey was restricted to the most likely areas, that is, the river valley, ridgetops, and side drainages into the river. Seventy-five percent of the survey area was walked over, but heavy foliage obscured more than half of the area.

There are two ecological zones in the canyon, riparian and grassland. Five types of sites were found in the grasslands above the canyon: hunting camps, rock tepee rings, single artifact sites, quarries, and rock alignments (drive lines). The riparian zone along the Madison River and its side drainages contained many campsites and single artifact sites.

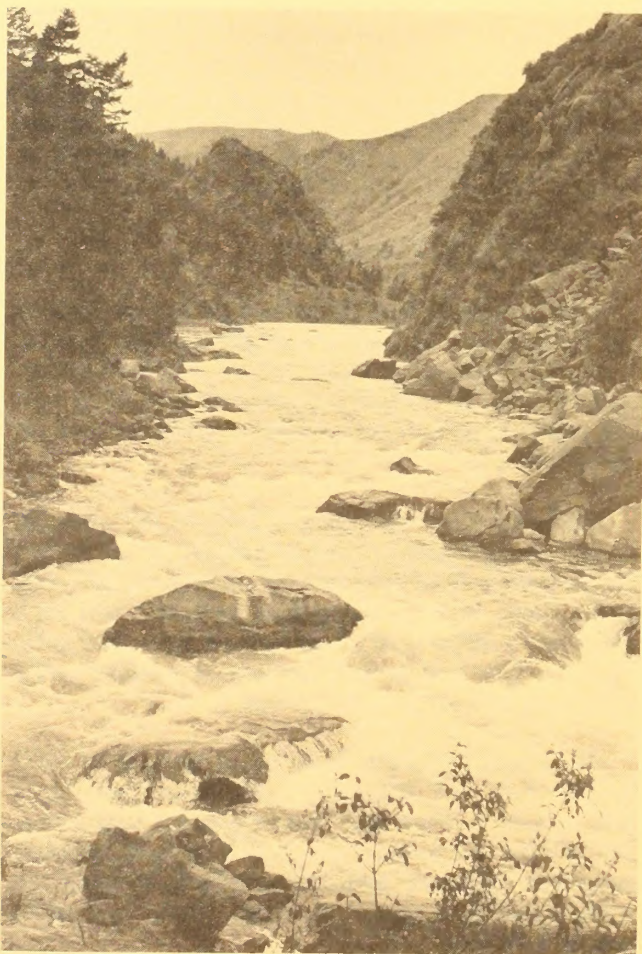
The dates of sites that were found range from 1000 B.C. to A.D. 200 (Pelican Lake) up to Late Plains historic period. Most sites were clustered on the west side of the river and the north end. The canyon area was used seasonally by prehistoric peoples for hunting and shelter and as a source of wood, chert, and edible plants and berries.



## RECREATION

The Madison River is the focus of recreation in the study area. Most use is concentrated on the canyon floor because the steep canyon walls preclude use, especially on the west side, except where access is gained by boat or raft. Some sections of almost sheer rock have been used for rock climbing, but this use is uncommon.

Access to the river for rafts and boats is limited to a put-in area upriver from the Montana Power Company powerhouse south of the study area. The takeout point is just north of the study area. Floaters can enjoy dramatic views of the canyon walls, vegetation, wildlife, and detail in rock outcrops and boulders; this high scenic value makes for river-running experiences that are rare in southwestern Montana and unusual in the United States. The canyon is not comparable with Hells Canyon or the Grand Canyon, but it provides an experience on a more intimate scale, combining thrilling rapids with placid sections of water.

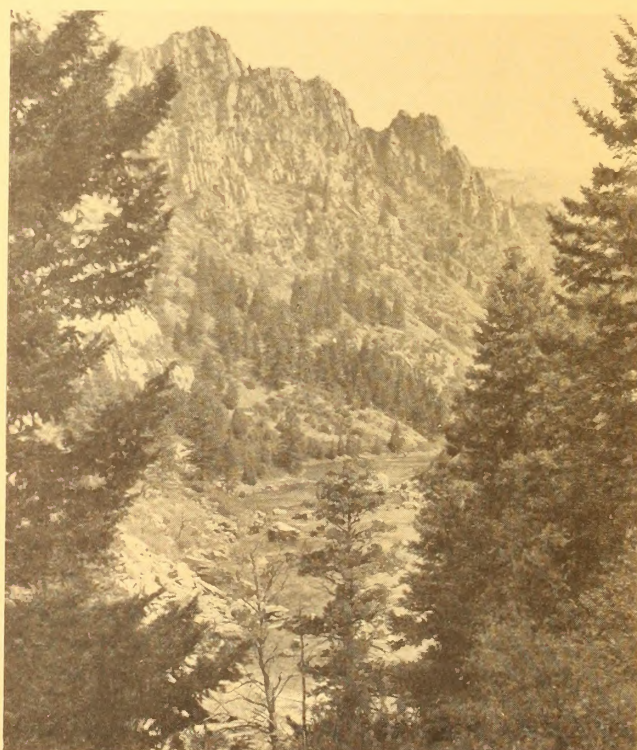


Rapids near the southern end of the study area make river-running in this section of the canyon difficult and risky.



River-running includes rafting as well as kayaking, which is shown here.

Excellent scenery contributes to all recreational experiences in Bear Trap Canyon. Dense forest closes off views of the canyon along some parts of the main trail, but the canopy opens unexpectedly so one can see long-distance "picture postcard" vistas of the canyon, often framed by trees. These picturesque views fulfill aesthetic desires for rugged natural settings. The canyon walls eliminate most outside sounds, and bird songs often can be heard.



View to the north from the trail. Vistas of this kind occur intermittently in the southern part of the canyon.



Areas away from the river have some potential for hiking, camping, nature study, and photography, but physiographic limitations restrict access to much of the study area, so that the usability of west side of the canyon is limited. About 16 acres that have slopes under 30 percent are accessible. Because most viewing of the canyon is done from the east side of the canyon floor, the low use and low potential use of the west side is not necessarily undesirable.

Access for hiking is limited to a trailhead at the north end of the single major trail, because safety hazards at the power plant block the entry of hikers from the south. The main trail is poorly designed for enjoyment of solitude, because hikers going into the canyon and those coming out meet on the trail. Minor trails exist, but they are little used. They lead to views from the canyon rim, but a hiker must then travel back on the same minor trail to the main trail. Cross-country hiking is difficult in most of the area because slopes are steeper than 60 percent (1.7 to 1) and undergrowth is dense.

The Madison River offers a variety of water forms for fishing either from rafts or from the riverbank. The area's fishery is good for pan-sized rainbow trout, brown trout, and mountain whitefish. The Madison in this area is rated as a blue ribbon trout stream by the Montana Department of Fish, Wildlife, and Parks. Although vegetation and steep slopes make a large part of the river inaccessible, many open areas provide easy access and the space needed for fly fishing.

Fishing from rafts permits use of virtually the entire river, and it is so successful that there is a potential for overuse in the near future. The reduction of fish growth because of thermal pollution affects the quality of recreation.

Hunting in the study area is limited to the canyon floor and to areas beyond the canyon rim that can be reached from the surrounding plateau. Steep slopes make the canyon itself less desirable for hunting than other areas in the region, but within this limitation the hunting opportunities are excellent.

Camping opportunities are limited because there are few flat spaces with trees for shade, windbreak, and privacy. Visitors camp primarily on the canyon floor and along the river on alluvial fans from side drainages. Some of these areas are rocky, but many sites with grass and some with scattered trees are available. Dead branches and deadfall material are available for firewood, but the supply is not abundant. Most camping in the study area is related to fishing; campers usually choose a site near the river with a fire ring and a flat area for a small tent or a bedroll. Campsites with a canopy of trees are favored.

Minor recreational activities in the study area include snowshoeing and cross-country skiing. The potential for snowmobile use is considered slight; it is limited to the north end of the study area. More desirable locations for snowmobiling can be found elsewhere in the local area.

The potential for off-road vehicle (ORV) use is very low, and the area is not particularly desirable for ORVs because slopes are steep and the area for maneuvering is limited in the canyon. Slopes ranging from 30 to 100 percent in the canyon would necessitate extensive road construction if vehicle access were to be provided. This, in turn, would destroy the attractiveness of the canyon. The area currently is closed to vehicle use.

Hazards to study area visitors include the presence of rattlesnakes, fairly large areas of poison oak, and some danger of rock slides, although this danger is considered low. Access through the south end of the canyon has been curtailed because of danger from emergency overflow from the power plant. The recreational activities available in Bear Trap Canyon involve a certain amount of risk--people have been hurt or killed in the canyon running the river and attempting to climb rock outcrops.

Visitors park and camp in campers at the road closure at the north end of the study area. There is a small BLM-managed developed campground with sanitary facilities and organized campsites near the river about 2 miles north of the road closure.

Parking at the power plant is extremely limited because of the narrowness of the canyon, and the parking area that exists is intended for power plant employees. This location is used as a put-in point for river running, but there is no foot access to the ISA from this spot.

The recreation use pattern in Bear Trap Canyon is influenced by the area's proximity to Yellowstone National Park. Current use levels are considered high. A recent study showed the area to be a primary destination point for visitors from the region and throughout the nation (Baty 1977). About half of the visitors to Bear Trap Canyon during the summer were from out of state, with the majority from California. Most visitors surveyed were from the Midwest or the West.

The primary use of the study area during the summer and early autumn is fishing (65 percent of the visits between July 1 and September 5 were for fishing). The total number of visits per year to the area between the Montana Power Company access road and the primitive area trailhead is approximately 3,547. About 46 visits per day, or 70 percent of the total, occur on weekdays, and about 68 visits per weekend day, or about 30 percent, occur on weekends.



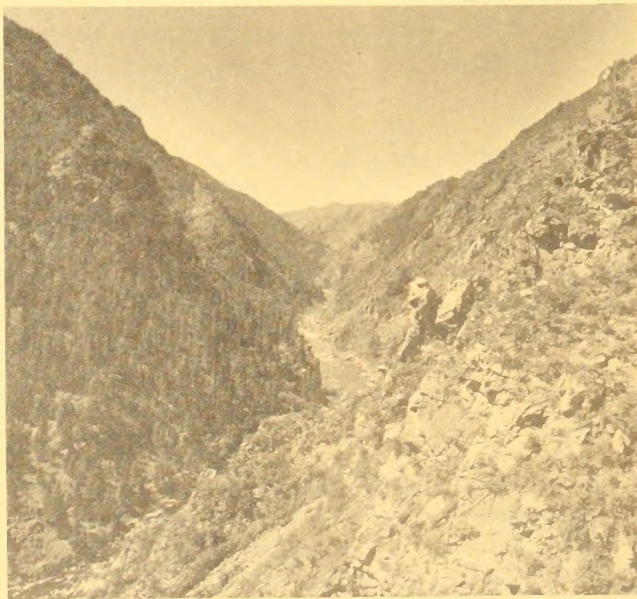
The information from Baty's report suggests that Bear Trap Canyon is an important recreation resource both regionally and nationally, considering that the area has received little publicity. Most of this interest is related to fishing. The use density can be expected to be about 1 person per 2.4 acres on a given weekend, excluding use in areas with steeper slopes.

The area is dominated by steep slopes, as previously described, but 163 acres at the river's edge has slopes of less than 30 percent. Sixteen acres are accessible only from the river. Certain areas are suffering environmental damage. The damage caused by small spur trails to fishing spots, which have created a potential for erosion in some locations, can be considered permanent unless relief from constant use would allow the area to repair itself. This prospect is unlikely without some form of management action.

## VEGETATION

### Timber

The variations in microclimates and soils in the study area make possible a great variety of vegetation. Dense forest growth is limited to north-facing slopes. South-exposed slopes have scattered trees with large areas of unforested land and bare rock outcrops, which is much like a savanna in appearance. The tree canopy of forested areas is primarily Douglas-fir; pine and spruce are found as minor species. Juniper occurs as a solitary tree in the savanna-like areas, and poplar is concentrated in the bottoms of the lateral drainages and along the canyon floor.



This aerial photo, looking south, shows diversity of canyon vegetation that is due to slope exposure.

Aspen stands are found on some moist sites, particularly on the west side of the canyon, and may also appear where snow accumulation provides a source of water. The vegetation in some unforested areas is prairie and meadow types. On other unforested areas, such as on talus and bare rock outcrops, vegetation is scant. Scree areas (areas covered by rocks) tend to be of savanna-like configuration.

The understory in most of the area is sparse to dense growth of grass, with scattered shrubs. Chokecherry and other shrubs can make up quite dense undergrowth on north-facing slopes and in drainages.

Several fires have occurred in the canyon in the recent past. The burned areas, which are in a period of regrowth, do not immediately appear to be burns to the untrained eye, but the vegetation differs somewhat from that of surrounding areas. Revegetation of the burned slopes is sparse, but it appears to be sufficient to prevent severe erosion.



This area was burned in the recent past. Most signs of the fire have been covered by vegetation, but a few snags remain. More years will pass before trees here are of appreciable size.

In areas where compaction was caused by vehicle use in the past, revegetation seems rapid, and these damaged areas can be expected to return rapidly to a natural appearance, as could others that might occur. The freeze-thaw of soils in the study area tends to loosen compaction so that vegetation can grow. For this reason, unless use is constant, the damaged areas soon become overgrown.

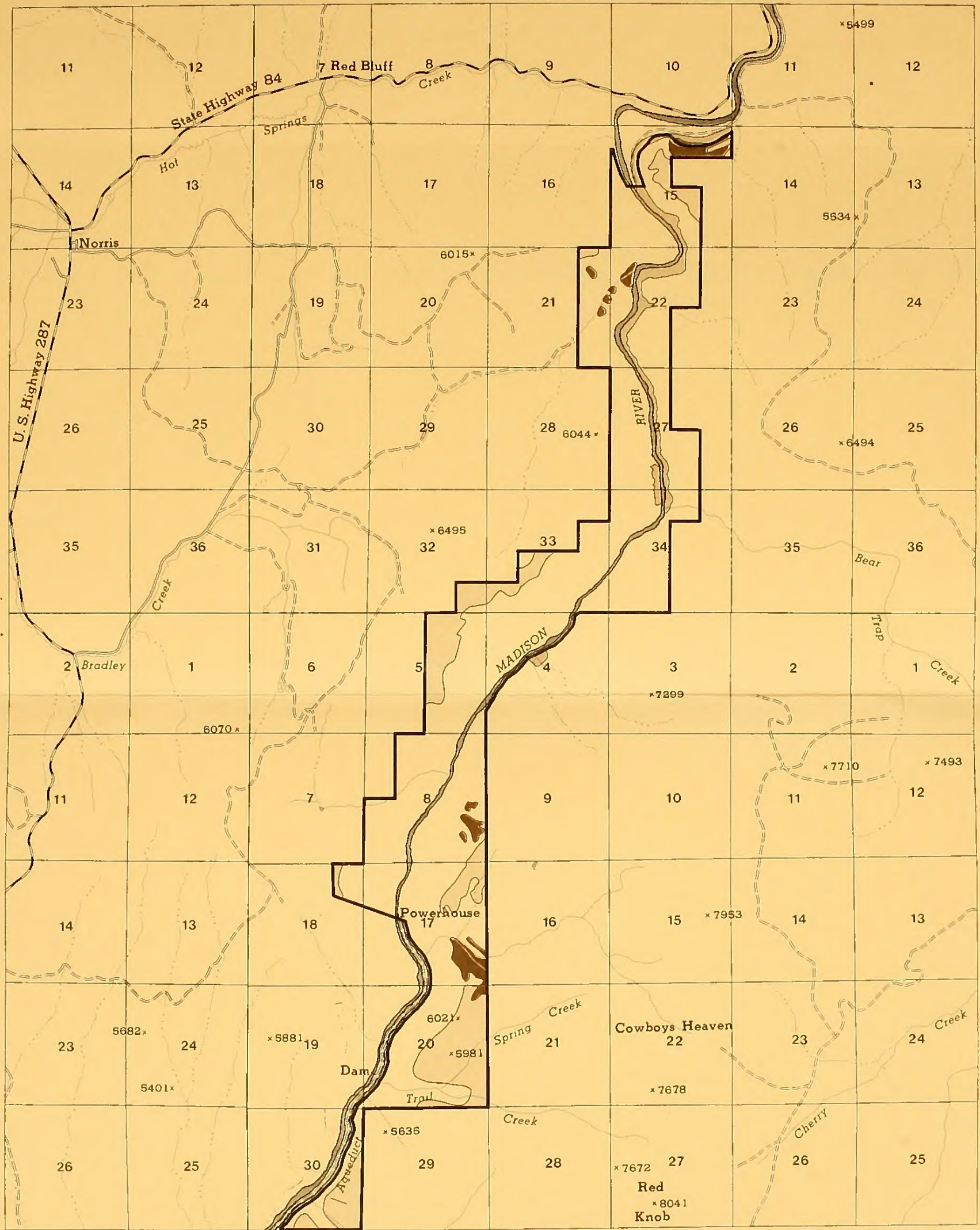
The timber in Bear Trap Canyon itself is of little commercial interest because productivity is low and valuable areas are widely dispersed. Steep slopes make some places inaccessible, and large areas of rock and



R.1 W. R.1 E.

T.3 S.  
T.4 S.

T.3 S.  
T.4 S.



R.1 W. R.1 E.

UNITED STATES DEPARTMENT  
OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

# BEAR TRAP CANYON WILDERNESS INSTANT STUDY AREA

BUTTE DISTRICT

## RESOURCES

### LEGEND

Study area boundary.

Forage (livestock and wildlife).

Forage (suitable for livestock  
available only to wildlife).

Timber (harvestable).



SOURCES: USDI, BLM, 1979a; USDI, BM, 1979; USDI,  
USGS 15' quads Norris and Ennis, 1949; BLM, 1980.







scree limit the productivity of the study area. Access to timber is feasible only from the rim of the canyon, not from the canyon floor.

Douglas-fir is the main species of commercial interest; however, the area is not particularly productive, and slopes of more than 60 percent limit potential harvesting to small areas, primarily those beyond the canyon rim on the east side of the canyon. Other species of trees are only a small component of the forest.

Approximately 135 acres producing 20 cubic feet or more of wood (representing 11,086 board feet per year) is accessible within the study area boundary. Stumpage is valued at \$719.26 per year. This timber is in 12 isolated locations, the largest of which is 43.3 acres. These areas are of little commercial interest by themselves; they could be harvested profitably only if they were combined with operations on adjoining lands.

There is some potential for commercial forestry in areas adjoining the east side of the canyon. These could be in danger of damage by fire from the canyon. Much of this area is under study for wilderness potential by the Forest Service, so the use of the lands adjacent to Bear Trap Canyon for forestry is not specifically planned.

Vegetation is an aesthetic component of the wilderness experience and is important to the quality of recreation in the canyon. The vegetation pattern in some areas inhibits movement but provides areas for solitude by blocking views and muffling sounds.

## Forage

Idaho fescue and mountain sage make up the vegetative covering in untimbered areas and areas with scattered trees on the east side of the canyon. This vegetation blends in and out of forested areas and through the areas of scattered timber. Undergrowth is generally more sparse where the canopy density is high than in open areas, but where moisture is present the understory may be dense and lush.

Mountain shrubs such as mountain mahogany, juniper, and serviceberry dominate on steep slopes; chokecherry may dominate on wetter sites. Vegetation is sparse or absent on many areas that are covered by talus and scree.

A dense growth of bluebunch wheatgrass with scattered shrubs and trees makes up the floodplain grassland on the canyon floor. These grasses grow on very coarse-grained soils.

Poison oak grows in dense patches on the rocky margins of parts of the river. The occurrence increases

along the trail from south to north. A large area covers the slope at the north end of the canyon just outside the road closure, near the area where visitors usually park. Poison oak can cause severe problems for certain individuals who are allergic to it.



Poison oak grows prolifically in rocky areas, some near the trail.

Very little of Bear Trap Canyon is used for livestock grazing. The Easter custodial leases, which are seasonal, use parts of the land on the west rim of the canyon; the Jourdain custodials, which are included with the Forest Service grazing program, use part of the southeast portion of the canyon. Aside from these two custodials, the area is not leased, and no forage on the canyon bottom has been leased. The steep canyon slopes form a natural barrier that prevents livestock in these two permitted areas from getting to the Madison River to drink.



The areas above the canyon on the right of the picture are grazed by livestock. Steep canyon walls keep cattle in these areas above the canyon.



Although no canyon bottom forage has been leased, forage for potential livestock grazing can be found in grassy areas on the canyon floor, as well as in incidental locations on the rim that are away from areas of recreational use. Currently the canyon bottom forage is used exclusively by big game and other wildlife. The Madison River serves as a source of water for wildlife.

No threatened or endangered plant species have been found in the study area, but white-margined phlox (*Phlox albomarginata*), a species with restricted distribution in Montana, does occur there. It has been identified as needing detailed investigation for possible inclusion in the National Inventory of Threatened and Endangered Species.

The presence of open spaces within the forested area provides opportunities for recreation because of the pleasant nature of the grassy areas. Nonforested areas, particularly those near the river, are attractive for camping and picnicking. Open spaces are ideal for fly fishing, provide ease of movement in hiking, and open views to the canyon. The mixture of open grass, sagebrush, scattered trees, and dense timber provides a variety of experiences, stimulates aesthetic interest, and increases opportunities to observe a variety of wildlife. Open spaces intensify the aesthetic impact of striking rock outcrops and forested areas by providing dramatic and sometimes panoramic views.

The use of the forage resource would not be affected by wilderness designation.

## GEOLOGY AND MINERALS

The geology and minerals of the study area are described in considerable detail in Appendix 5 and in the joint Bureau of Mines/Geological Survey minerals report, which is available for public inspection in the Butte District office and the Montana State Office of the BLM (USDI, Bureau of Mines 1979).

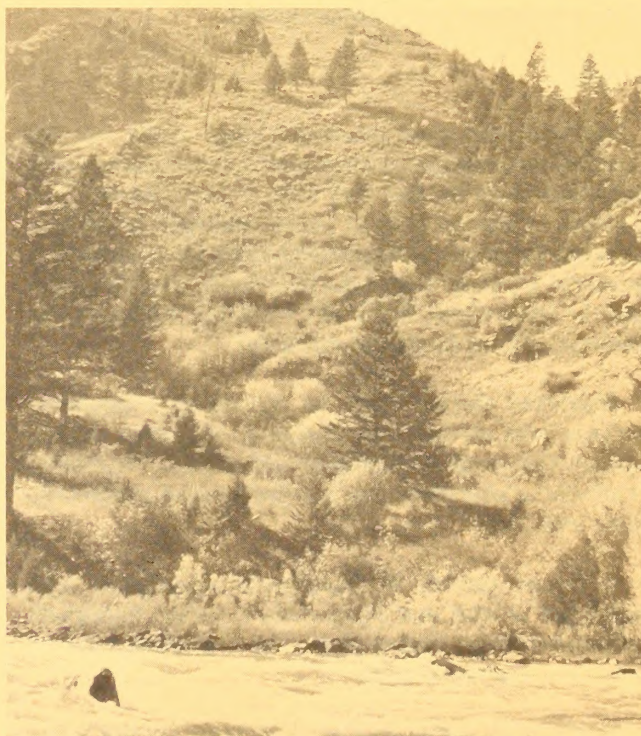
Bear Trap Canyon is made up primarily of the Precambrian gneiss and schist that makes up the bulk of the Madison Range. Much of this rock is exposed, and it has weathered to talus that has collected on the canyon floor in the form of small gravel bars and gravel-and-boulder terraces. Side drainages have formed small alluvial fans on the canyon floor.

The western wall of the canyon is largely outcrop and talus, with sparse vegetation and pastureland to the west of the canyon rim. The east side of the canyon appears less rocky, is moderately to densely forested, and is dissected by more side drainages than the west side of the canyon.

A prominent system of joints and faults trends northwesterly across the canyon. This system is espec-



Rock outcrop with talus slope near base. These rock features make the west side of the canyon nearly impassable.



Alluvial areas such as this are favored for camping.



ially well developed along a belt that extends about 1 mile along either side of Bear Trap Creek and leads from the canyon to the lower Hot Springs mining district northwest of the study area. Sporadic outcrops of quartz and quartz-feldspar pegmatites, probably of the late Cretaceous or early Tertiary age and related to the intrusion of the Boulder Batholith, demarcate the system of faults and joints.

The faults and shear areas that cross Bear Trap Canyon are the places where minerals can be found. Although these mineralized structures and associated quartz veins cross the study area, both the width of the structures and the concentration of economic minerals are insufficient to be considered significant. Silver can be found in association with the fault system, but extensive mapping, geophysical survey, and drilling be to evaluate the potential of these deposits. Corundum and sillimanite have been found in pegmatite structures in locations adjacent to the study area, but the study area itself lacks the bold outcrops that would indicate the presence of these minerals.

The gneiss and schist of the area have some value as building stone, and alluvial material has value as gravel. These materials are found abundantly elsewhere in the region, so the use of those in the study area would have no particular competitive advantage over other local sources.

The study area was heavily prospected between 1888 and 1906, and many claims were made. Five unnamed or unclaimed lode prospects in the study area are inactive. This area was considered an extension of the Lower Hot Springs mining district. Most mining activity in the district was centered in the Boaz Mine, which produced gold, silver, copper, and lead from 1886 to 1948. Production ceased in 1948 because of increasing labor costs, dewatering problems, and diminishing ore grades. Production from other mines in the district was insignificant compared to Boaz. No mines are active now.

The mineral resources of Bear Trap Canyon have little economic potential. There may be silver in some parts of the ISA, but more extensive study would be needed to determine this potential. The area has no hot springs or other geothermal indications, but its proximity to hot springs near the town of Norris, about 4 miles west, suggests a speculative potential for geothermal energy development.

The study area's geological formations suggest no potential for oil and gas development. No particular scientific value in the geology of Bear Trap Canyon has been discovered. The formations and minerals in the canyon are fairly common and are unlikely to provide an impetus for scientific study.

The main value of the geology and minerals of Bear Trap Canyon is aesthetic. The steep canyon walls are dramatic and the exposed rock is visually exciting. Wilderness designation would not necessarily preclude the development of any known mineral values.

## ADJACENT LAND USE

No significant values exist within the canyon that would promote other land uses such as farming, and no plans are known for use of the area or parts of the area for such uses as utility or transportation corridors.

Present land use outside the study area boundary is compatible with wilderness management, with the exception of the Montana Power generating facility. The effect of thermal pollution and the lack of access from the south end of the canyon are the only qualities that are detrimental to the study area. The physiography of the canyon acts as a buffer to the influence of undesirable views and noise. Near the middle of the canyon, where a portion of the Gallatin National Forest extends to the east bank of the river, there is a potential for undesirable sights and sounds to influence the study area. However, steep slopes and the lack of resource values in this location make the possibility of such disrupting activity remote. Any problem could probably be resolved through cooperation with the Forest Service.

The difficulty of access for hikers to the study area is partially due to the management of adjacent lands and partially due to topography.

Portions of the Gallatin and Beaverhead National Forests that are contiguous with the Bear Trap Canyon study area are under study for suitability or nonsuitability as wilderness. Designation of these areas as wilderness would enhance the attractiveness of Bear Trap Canyon. Should these areas be designated as wilderness and Bear Trap Canyon not be designated, the form of management intended for Bear Trap Canyon through the Management Framework Plan would be compatible with adjacent wilderness areas.

If the areas of the national forests were not designated wilderness, nonuniform management of the physiographic area that is the canyon might influence the attractiveness of the study area. As mentioned above, the possibility of disrupting activity would still be remote in this case.



## FOREST SERVICE LAND CONSIDERED IN ALTERNATIVE 1—C

The physiographic unit identifiable as a canyon extends onto areas of Forest Service jurisdiction. The Forest Service land shown as part of Alternative 1-C consists of 1,507 acres in the Gallatin National Forest and 290 acres in the Beaverhead National Forest. This area and the larger unit of which it is part are currently under study for wilderness suitability.

Although information on the wilderness suitability of this area will not be complete until the Forest Service releases the Madison Study Area EIS, it appears to be natural and free of the imprint of human presence and to offer outstanding opportunities for solitude and primitive recreation. Study of air photography, overflights during the intensive wilderness inventory, and on-the-ground observation have indicated that this Forest Service land has wilderness characteristics. Its inclusion in Alternative 1-C would simply extend the characteristics of the ISA to a larger area.

The geology of this portion National Forest is the same as that of the ISA: Precambrian gneiss and schist with areas of alluvial material of more recent origin at the bottom of drainages. On the assumption that mineral values correspond with this geology, no mineral values of any significance are anticipated; however, without a minerals report for the area, this conjecture cannot be considered conclusive.

Timber values are greater in the National Forest than in the ISA. Steep slopes inhibit the harvestability of much of the area (see the Study Area Limitations map), but on areas flatter than 30 percent a harvest of about 780 acres would be possible. With the assumption that the productivity of these timbered areas is the same as that of harvestable areas in the ISA, these areas would produce about 64,000 board feet per year worth approximately \$2,500 per year in direct income to the local economy. This is considered an insignificant amount.

The vegetation of the national forest land is about the same as that of the ISA, and habitat types are about the same. No threatened and endangered species of plants or animals are thought to occur in the area.

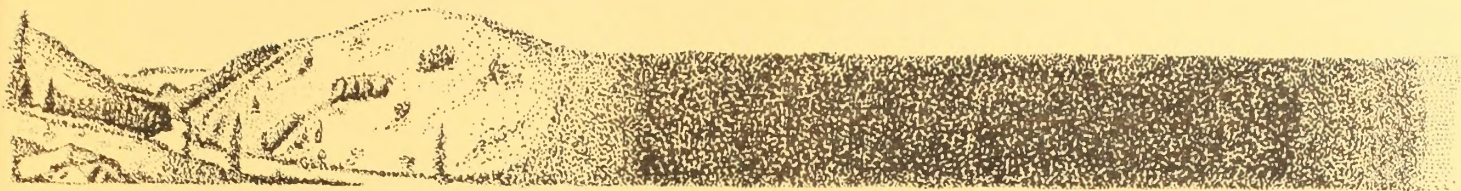
No other resource values that would be affected are known to exist within this area of the national forests, and most values would not be affected if they existed. Grazing, for example, would not necessarily be altered through designation or nondesignation as wilderness, and environmental qualities would continue in their present condition.

The use of motor vehicles would be inhibited by dense vegetation throughout most of the area and by steep slopes in part of it. Little potential is thought to exist for motor vehicle use in this area (see the Study Area Characteristics map for areas of vegetation).

If the Forest Service land was included in the wilderness designation, the possibility of access from the south and the potential for distributing visitors over a wider area would improve manageability and opportunities for recreation.



# MANAGEMENT CONSIDERATIONS



## MANAGEMENT PHILOSOPHY

If designated as wilderness, Bear Trap Canyon would be managed under objectives of the 1964 Wilderness Act. This form of management places the highest value on protection of the natural qualities of the area. All other uses and activities would be subordinate to the objective of maintaining natural qualities and would be limited to actions and levels of use that would permit natural qualities to be preserved. Even if the area was not designated wilderness, management of this section of the Madison River corridor under BLM jurisdiction would still be aimed at protecting natural qualities. No decision has been made on how adjacent Forest Service lands would be managed if that area was not designated wilderness.

Under any alternative, a detailed management plan will be prepared for the Bear Trap Canyon area. The detail of that plan and the means of implementation could vary with the area's designation or nondesignation as wilderness. In addition to the management plan, a study will consider the management of the remaining Madison River corridor to assure a comprehensive look at the interrelationships of the various sections of the river, primarily from the standpoint of recreation use, so that the Bear Trap Canyon management plan will eventually tie in with management plans for the public lands of the entire corridor. Under Alternative 1-C this management plan would be prepared with appropriate involvement by the BLM and the Forest Service.

The management philosophy under nondesignation would be to permit any use compatible with wilderness to be unlimited until observation and monitoring of the area indicated that site damage was occurring and management action would be necessary to prevent permanent impairment. Damage to vegetation would thus be used as an indicator for some management action to limit use so that erosion could be prevented. The management plan would attempt to anticipate potential problems and provide viable management actions to be implemented should those problems arise.

Under all alternatives, use must conform to good principles of land management and existing regulations and laws; thus, many limits to uses and activities are in no way related to the process of designation or

nondesignation. However, under wilderness designation, the limitations may be more stringent or more relaxed, depending upon the overall objectives of the program. A key difference between designation and nondesignation of any area as wilderness is that wilderness is intended to preserve an area indefinitely, whereas management without designation could begin with a goal of protecting natural qualities, but the form of management could change over time.

In general, the management plan would limit use as little as necessary within the constraints of the Wilderness Act or the provisions of the BLM planning documents (the Management Framework Plan) until site indicators such as vegetation damage indicated that some action was necessary. The management plan for the area would attempt to anticipate problems within the area, but implementation of such actions as limiting the amount of use would be reserved until site indicators demonstrated the need for action to prevent damage to natural qualities. Artificial features will be eliminated and the area will be restored to a natural condition with or without designation. Restoration will be implemented when the management plan is complete, when it becomes apparent that site deterioration would result from lack of action, or when money is available to accomplish the work.

The only nonconforming use in the study area is the trespass occupancy of a cabin near Bear Trap Canyon. The area will be returned to a natural condition once this issue is resolved through administrative action whereby the trespass would be permitted for the life of the present occupant.

The overall philosophy outlined above forms the concept for management of Bear Trap Canyon under any of the alternatives. The existing pattern of use is expected to change over time. Recreation uses would follow the existing pattern, but better use of the entire area would be encouraged to reduce pressure on the canyon bottom. Grazing will continue at existing levels in areas beyond the canyon rim. No special management zones would be established to limit activities in certain areas; rather, activities would follow the natural limitations and attractions of the area.

## MANAGEMENT OF LAND USES

Many aspects of management would be substantially the same whether or not the study area was



designated wilderness. In the following discussions of management of various resources, the form of management of various resources, the form of management under wilderness designation will be described first, then the management under nondesignation will be discussed. Where no differences are stated, the management may be presumed to be similar under designation or nondesignation.

## **Livestock Grazing**

Use of forage by livestock would be permitted and could be increased or decreased on the basis of sound range management and land management principles. The level of livestock use is ultimately determined from the potential effect on the land and comparison with other potential land uses for a given area. New range projects generally would not be permitted where alternatives are available within nonwilderness areas. Certain developments may be permitted where wilderness characteristics can remain unimpaired. Grazing would be limited to areas outside the rim of the canyon. If necessary, the problem of stray cattle wandering into the canyon would be prevented through construction of fences, increased herding, or other means, as determined through development of the management plan for the area. Actions such as prescribed burning, cultivating, and vegetative enhancement would not be permitted.

## **Timber Management**

Timber harvesting would not be permitted. Forestry management actions such as thinning or other vegetative manipulation would not be permitted. Insect or disease control would be permitted to protect adjacent areas of commercial value.

Should the area not be designated wilderness, timber harvesting might be permitted on intensively managed areas 1/4 mile or more from the Madison River corridor in areas not visible from the river and outside the previously designated primitive area boundary. Forestry activity might be further limited in response to uses of private and public lands adjacent to the study area.

## **Mining**

Mining would have to conform to provisions of FLPMA and the 1964 Wilderness Act. Mining claims could be located in portions of the study area not designated as a primitive area until December 31, 1983. No patents would be issued after December 31, 1983, except for the valid claims existing before that date. Any claim on which a valid discovery had not been made prior to October 21, 1976, would be subject to regulation under nonimpairment criteria of the

wilderness resource. Any valid claim that existed prior to October 21, 1976, would be subject to regulations to prevent unnecessary and undue degradation of the land.

If the area is not designated as wilderness, mineral withdrawal would be considered on the basis of appropriate state laws such as the Clean Air Act, the Water Pollution Control Act, the Public Water Supply Act, the Solid Waste Management Act, or the Natural Stream Bed Act, or would be subject to other regulations for areas not already withdrawn.

## **Control of Fire, Insects, and Disease**

All presuppression, suppression, and post-suppression fire activities will continue under current methods of operation, with caution being used to avoid unnecessary impairment of the area's wilderness characteristics, until a specific fire management plan is developed. This plan will address such factors as the natural role of fire, historic occurrence of fire in the area, and the effects on private or other agency inholdings and adjacent land. Insect and disease control will be permitted for small areas and in emergencies. These actions will be planned and executed in cooperation with the Forest Service.

## **Watershed and Wildlife Management**

Protection of watershed and wildlife through maintenance of natural systems is one of the primary objectives of the Wilderness Act. As natural succession takes place, the composition of vegetation and habitat conditions will change. These changes will be accepted as normal events.

Land treatments and vegetative manipulation by chemical, mechanical, or biological means will not be permitted. Prescribed burning may be permitted to maintain the natural condition of fire-dependent ecosystems. Watershed rehabilitation work required by emergency conditions may involve any treatments necessary, but they must be conducted to the extent feasible in a manner that will not impair wilderness suitability.

## **Recreation**

Physiographic limitations, landownership patterns, and the location of the Montana Power Company power plant restrict management options for making better use of the study area. More intensive study of the recreational use of Bear Trap Canyon is needed; recreation and damage from overuse along the entire Madison River Corridor should be considered interrelated.

Local specialists consider the corridor to be approaching overuse, particularly from fishing. Immediate action



needs to be undertaken to remedy this situation and to preserve wilderness characteristics and natural quality. Primitive recreational activities within the canyon are appropriate and compatible with the wilderness concept, but close monitoring of the level of use is necessary so that the area can be managed to prevent further damage.

The means of preventing impairment ultimately would include limiting the numbers of people engaged in various activities. However, various means could be employed to reduce damage and potential damage, to increase the capacity of the area, and to relieve pressure at any given location. These means will be addressed in detail in the management plan, but could include (1) providing for better circulation and area use by establishment of better access from outside and by construction of primitive trails in such a way and in locations that would least impair natural quality, (2) providing similar opportunities in other areas to relieve pressure within the study area, and (3) providing support facilities that are more attractive for certain aspects of use that would appeal to a segment of the user group (for example, providing facilities for vehicle camping could relieve pressure for primitive camping).

Should the area be designated wilderness, permitted activities would be hiking, backpacking, camping, picnicking, river running, rock climbing, snowshoeing, and cross-country skiing. The use of motorized vehicles and equipment for access or recreational purposes would not be permitted.

Even if the area was not designated wilderness, it would be closed to vehicles. The recreational activities permitted under designation would be permitted if the area was not designated, but more flexibility would be possible in providing facilities in the study area for recreational activities. These facilities could increase the carrying capacity and permit more use of the area without damage to natural qualities.

## Other Land Uses

Other land uses might be permitted within the study area if they were determined to be consistent with wilderness use and would not impair wilderness characteristics.

## Management Issues

The usable area of the canyon is limited under Alternatives 1-A, 1-B, and 2 because Forest Service lands in Section 4, T4S, R1E divide the usable BLM land into two parts. Inclusion of parts of the national forests would expand the number of management options for the canyon, and a joint effort by the two agencies would be necessary to prevent conflict and to ensure optimum use of the area.

Manageability of the canyon without inclusion of these critical national forest areas is considered marginal because of the division of the area. Alternative 1-C was developed in response to this issue. Under the other alternatives, the issue would remain. Many alternatives are possible for ensuring uniform management, but the issue is considered significant enough to influence the designation/nondesignation decision. Until the issue is resolved, development of a management plan will be impeded.

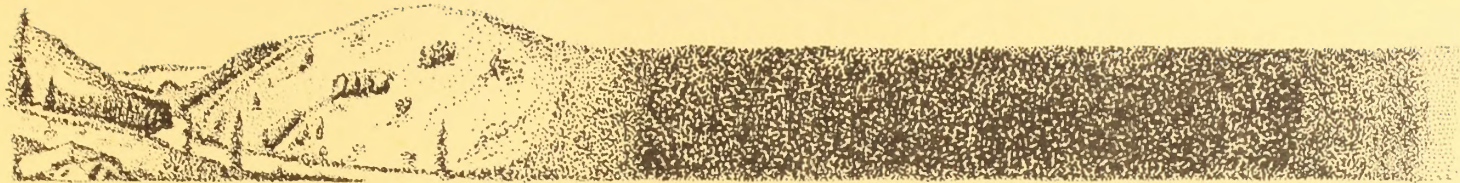
Thermal pollution of the Madison is also an issue that might influence the development of a management plan, cannot be resolved at this time.







# PUBLIC INVOLVEMENT



Public involvement with Bear Trap Canyon began in 1966 with a classification and multiple use meeting. Recreation plans for the area were presented in 1967, public meetings were held for the Management Framework Plans (MFPs) of 1970, and there were meetings and public comment periods related to primitive area designation in 1971.

Five public meetings were held in May 1979 on the MFP for the Dillon Resource Area. At that time, more than 1,000 brochures concerning major multiple use issues and proposed solutions were distributed. Comments received in connection with the MFP covered a number of issues, but some comments were received that favored the continuance of roadless designation so that the natural quality of the Bear Trap Canyon area could be preserved.

The BLM conducted a study of the attitudes of Dillon Resource Area residents toward resource and community issues in May 1979 (USDI, BLM 1979b). Interviews conducted in Beaverhead, Deer Lodge, Madison, and Silver Bow counties showed that the outlook of those interviewed was about equally divided between support and opposition to wilderness designation for Bear Trap Canyon and other Instant Study Areas in southwestern Montana. Some opinions encountered were that limited access provisions discriminated against older or handicapped persons, that resource production could be lost with wilderness designation, that there is enough wilderness in the area already, and that rules are not adequately enforced to keep vehicles out of existing primitive areas. The survey results are analyzed in more detail in the cited report.

A wilderness intensive inventory in the summer of 1979 studied the wilderness characteristics of Bear Trap Canyon (see Appendix 3). A public comment period in August followed the inventory, and 37 comments were received, most supporting wilderness designation. A field trip to Bear Trap Canyon was conducted, and all persons who attended favored further study of the area.

Concerns expressed in comments on the intensive inventory were primarily related to vehicle access to the area for persons who do not choose to hike. Some persons said the area does not fit their concept of wilderness, and others said the present form of management should continue. Opinions also were expressed

that Bear Trap Canyon should be included with a larger Spanish Peaks Wilderness (an area now under study by the Forest Service).

Some persons seemed more concerned with the formality of designation as wilderness than with what designation implies in management of a specific area. Persons who have direct knowledge of the area apparently are more likely to support designation than those who do not know the area. Responses to the MFP seem to indicate that when the term "wilderness" is not used but the form of management is described, the reaction is positive.

The issues concerning Bear Trap Canyon have changed little since its designation as a primitive area. A continuing concern is the environmental effects of the Montana Power Company dam on the Madison River. No controversy should result from the designation or nondesignation of Bear Trap Canyon as wilderness, since no other significant resource values have been identified. Should the issue become controversial, it can be inferred that this is a reaction to the general issue of wilderness rather than to the designation of this particular area.

During the public comment period on this document, formal public hearings will be held as required by section 3(d) of the Wilderness Act. A summary of these hearings will be included in the final document, along with an analysis of all comments received during the 45-day public comment period. A transcript of the hearings will be available for public inspection.







**DRAFT  
ENVIRONMENTAL  
IMPACT  
STATEMENT**

**PART II**







**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**Montana State Office**

**Butte District Office**

**Dillon Resource Area**

**DRAFT ENVIRONMENTAL IMPACT STATEMENT  
FOR WILDERNESS DESIGNATION OF THE  
BEAR TRAP CANYON INSTANT STUDY AREA**

**Madison County, Montana**

**Abstract**

In compliance with wilderness study requirements of Section 603 of the Federal Land Policy and Management Act of 1976, a study has been made of the environmental, social, and economic impacts that would result from an act of Congress designating Bear Trap Canyon as wilderness. The result of this study was the conclusion that no significant environmental, social, or economic impacts would result from either the designation or lack of designation of the Bear Trap Canyon study area.

For additional information please contact Jack A. McIntosh, District Manager, Butte District Office, P. O. Box 3388, Butte, Montana 59701. Telephone (406) 723-6561; FTS 585-2415. Comments will be considered if they are postmarked not later than June 21, 1980

**APRIL 1980**



## SUMMARY

The action under consideration is an act of Congress that would designate all or part of 4,015 acres of public land in the Bear Trap Canyon as wilderness.

Since the designation of the Bear Trap Canyon Primitive Area in 1972, 2,861 acres of the land under study has been managed as a primitive area. Subsequently, the management of the area was considered through the Bureau of Land Management planning system as part of a management framework plan, and preservation of natural qualities was determined to be the best use of the area.

Management of the 2,861 acres would be the same as its management as a primitive area whether designated as wilderness or not. No environmental, social, or economic impact would occur in this part of the study area in either the long term or the short term.

The remaining 1,154 acres of public land in the study area is currently in a natural state. Designation of this portion of the study area as wilderness would ensure the continuance of that condition. The future use or value of this area cannot be predicted, but it has been determined that the exploitable resource values of this land are negligible. The existing use of this part of the study area would be modified by wilderness designation. Future uses cannot be predicted; no intentions for future uses are known except that this area will be considered as part of the Madison River corridor study. Designation of the entire study area as wilderness would have no predictable impact on environmental, social, or economic values in this area.

Designation or nondesignation of the area as wilderness, from the standpoint of environmental impact, would be variations on a "no action" theme. Wilderness designation would merely formalize the past, existing, and intended form of management for the study area, and management under wilderness designation would differ from present management only in that protection would be made more permanent.



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## INTRODUCTION

This portion of the document summarizes and highlights the information required by the National Environmental Policy Act (NEPA) for an Environmental Impact Statement (EIS). Part II is not meant to stand alone--the environmental analysis requirements for an EIS and the analysis for wilderness suitability have been integrated into Part I as a consolidated unit.

## PURPOSE OF AND NEED FOR THE ACTION

Consideration of areas of public lands for designation or nondesignation as wilderness was determined to be necessary by mandate of Congress in section 603 of the Federal Land Policy and Management Act of 1976.

## ALTERNATIVES

The alternatives are described in detail and analyzed in the "Alternatives" section of Part I of this document, and a preferred alternative has been identified in the "Recommendations" section of Part I.

## THE AFFECTED ENVIRONMENT

A total of 4,015 acres of public land would be affected by the decision to designate or not designate the area wilderness. The affected environment is described in the sections "The Area" and "Resources" in Part I of this document.

## ENVIRONMENTAL CONSEQUENCES

Environmental consequences have been considered in the "Alternatives" section of Part I. Regardless of the alternative selected, there would be no environmental consequences, including social and economic consequences, on the 2,861 acres of the study area that have been managed as a primitive area. The management of the study area would remain the same except that the form of management would be formalized under wilderness designation.

The status of the 1,154 acres that are not a part of the Bear Trap Canyon Primitive Area would be changed by wilderness designation because the area would then be closed to timber harvesting and mineral development. Wilderness designation also would bring about closure of the area to motor vehicles and motorized equipment except under certain conditions, as described in the "Management Considerations" section of this document.

Should the study area not be designated as wilderness, actions on the 1,154 acres cannot be predicted. No interest in the use of this portion of the study area has been expressed; however, it is being considered as part of a management plan for the Madison River corridor.

Mineral values in the study area have been determined to be negligible, timber values are considered insignificant, and the area is of low value for the use of recreational vehicles. It is not being considered for uses other than the current ones; therefore, it is unlikely that a decision to designate or not to designate the area as wilderness would result in any physical changes due to changes in land use.

Perpetuation of the natural quality of the study area would ensure its remaining for the appreciation of future generations, and the area could possibly be of some historic or scientific value in the future. Preservation of the area in a natural condition would protect watershed values and provide habitat for wildlife, and opportunities for recreation would be preserved.

Vegetation, especially the forested areas, could become senescent, or the area could change through other natural influences over time. As in the past, fire, either natural or human-caused, could influence the study area in spite of the continuing program of fire suppression. Perpetuation of insects or disease would be prevented through a control program should it become necessary; such a program is permitted within wilderness designation.

The lack of exploitable resource values and the objectives of the action imply that no adverse environmental, economic, or social consequences of any significance would result from designation or nondesignation of the study area as wilderness in either the short term or the long term. No resource values would be consumed through designation; therefore, the commitment of resources within the area cannot be considered irreversible or irretrievable. Mitigation of all potential impacts has been integrated in the development of each alternative. No residual impacts remain.



**APPENDIXES**  
**GLOSSARY**  
**REFERENCES**







# APPENDIXES

1. The Wilderness Provision of the Federal Land Policy and Management Act (section 603)
2. Excerpts from the Wilderness Act of 1964
3. Text of the Wilderness Intensive Inventory
4. Excerpts from the Dillon Resource Area Management Framework Plan
5. Excerpt from U. S. Geological Survey and Bureau of Mines Minerals Report
6. Preparers
7. Distribution
8. Special Legislative Needs



# APPENDIX 1: THE WILDERNESS PROVISION OF THE FEDERAL LAND POLICY AND MANAGEMENT ACT (section 603)

## BUREAU OF LAND MANAGEMENT WILDERNESS STUDY

SEC. 603. (a) Within fifteen years after the date of approval of this Act, the Secretary shall review those roadless areas of five thousand acres or more and roadless islands of the public lands, identified during the inventory required by section 201(a) of this Act as having wilderness characteristics described in the Wilderness Act of September 3, 1964 (78 Stat. 890; 16 U.S.C. 1131 et seq.) and shall from time to time report to the President his recommendation as to the suitability or unsuitability of each such area or island for preservation as wilderness: *Provided*, That prior to any recommendations for the designation of an area as wilderness the Secretary shall cause mineral surveys to be conducted by the Geological Survey and the Bureau of Mines to determine the mineral values, if any, that may be present in such areas: *Provided further*, That the Secretary shall report to the President by July 1, 1980, his recommendations on those areas which the Secretary has prior to November 1, 1975, formally identified as natural or primitive areas. The review required by this subsection shall be conducted in accordance with the procedure specified in section 3(d) of the Wilderness Act.

Review;  
report to  
President.  
43 USC 1782.

(b) The President shall advise the President of the Senate and the Speaker of the House of Representatives of his recommendations with respect to designation as wilderness of each such area, together with a map thereof and a definition of its boundaries. Such advice by the President shall be given within two years of the receipt of each report from the Secretary. A recommendation of the President for designation as wilderness shall become effective only if so provided by an Act of Congress.

Report to  
President.

Recommendations  
to President  
of the Senate  
and Speaker  
of the House.

(c) During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: *Provided*, That, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection. Unless previously withdrawn from appropriation under the mining laws, such lands shall continue to be subject to such appropriation during the period of review unless withdrawn by the Secretary under the procedures of section 204 of this Act for reasons other than preservation of their wilderness character. Once an area has been designated for preservation as wilderness, the provisions of the Wilderness Act which apply to national forest wilderness areas shall apply with respect to the administration and use of such designated area, including mineral surveys required by section 4(d) (2) of the Wilderness Act, and mineral development, access, exchange of lands, and ingress and egress for mining claimants and occupants.

Regulation.

*Ante*, p. 2751.

16 USC 1131  
note.

16 USC 1133.



# APPENDIX 2: EXCERPTS FROM THE WILDERNESS ACT OF 1964

Public Law 88-577  
88th Congress, S. 4  
September 3, 1964

## AN ACT

To establish a National Wilderness Preservation System for the permanent good of the whole people, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

Wilderness Act

## SHORT TITLE

SECTION 1. This Act may be cited as the "Wilderness Act".

## WILDERNESS SYSTEM ESTABLISHED STATEMENT OF POLICY

Sec. 2. (a) In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as "wilderness areas", and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness; and no Federal lands shall be designated as "wilderness areas" except as provided for in this Act or by a subsequent Act.

(b) The inclusion of an area in the National Wilderness Preservation System notwithstanding, the area shall continue to be managed by the Department and agency having jurisdiction thereover immediately before its inclusion in the National Wilderness Preservation System unless otherwise provided by Act of Congress. No appropriation shall be available for the payment of expenses or salaries for the administration of the National Wilderness Preservation System as a separate unit nor shall any appropriations be available for additional personnel stated as being required solely for the purpose of managing or administering areas solely because they are included within the National Wilderness Preservation System.

78 STAT. 890.  
78 STAT. 891.

## DEFINITION OF WILDERNESS

(c) A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

## NATIONAL WILDERNESS PRESERVATION SYSTEM—EXTENT OF SYSTEM

Sec. 3. (a) All areas within the national forests classified at least 30 days before the effective date of this Act by the Secretary of Agriculture or the Chief of the Forest Service as "wilderness", "wild", or "canoe" are hereby designated as wilderness areas. The Secretary of Agriculture shall—



Suitability.

(d)(1) The Secretary of Agriculture and the Secretary of the Interior shall, prior to submitting any recommendations to the President with respect to the suitability of any area for preservation as wilderness—

Publication in Federal Register.

(A) give such public notice of the proposed action as they deem appropriate, including publication in the Federal Register and in a newspaper having general circulation in the area or areas in the vicinity of the affected land;

Hearings.

(B) hold a public hearing or hearings at a location or locations convenient to the area affected. The hearings shall be announced through such means as the respective Secretaries involved deem appropriate, including notices in the Federal Register and in newspapers of general circulation in the

Publication in Federal Register.

area: *Provided*, That if the lands involved are located in more than one State, at least one hearing shall be held in each State in which a portion of the land lies;

79 STAT. 892

78 STAT. 893

(C) at least thirty days before the date of a hearing advise the Governor of each State and the governing board of each county, or in Alaska the borough, in which the lands are located, and Federal departments and agencies concerned, and invite such officials and Federal agencies to submit their views on the proposed action at the hearing or by no later than thirty days following the date of the hearing.

(2) Any views submitted to the appropriate Secretary under the provisions of (1) of this subsection with respect to any area shall be included with any recommendations to the President and to Congress with respect to such area.

Proposed modification.

(e) Any modification or adjustment of boundaries of any wilderness area shall be recommended by the appropriate Secretary after public notice of such proposal and public hearing or hearings as provided in subsection (d) of this section. The proposed modification or adjustment shall then be recommended with map and description thereof to the President. The President shall advise the United States Senate and the House of Representatives of his recommendations with respect to such modification or adjustment and such recommendations shall become effective only in the same manner as provided for in subsections (b) and (c) of this section.

#### USE OF WILDERNESS AREAS

Sec. 4. (a) The purposes of this Act are hereby declared to be within and supplemental to the purposes for which national forests and units of the national park and national wildlife refuge systems are established and administered and—

16 USC 475.

16 USC 528-531.

(1) Nothing in this Act shall be deemed to be in interference with the purpose for which national forests are established as set forth in the Act of June 4, 1897 (30 Stat. 11), and the Multiple-Use Sustained-Yield Act of June 12, 1960 (74 Stat. 215).

16 USC 577-577b.

(2) Nothing in this Act shall modify the restrictions and provisions of the Shipstead-Nolan Act (Public Law 539, Seventy-first Congress, July 10, 1930; 46 Stat. 1020), the Thyse-Blatnik Act (Public Law 733, Eightieth Congress, June 22, 1948; 62 Stat. 568), and the Humphrey-Thyse-Blatnik-Andersen Act (Public Law 607, Eighty-fourth Congress, June 22, 1956; 70 Stat. 326), as applying to the Superior National Forest or the regulations of the Secretary of Agriculture.

16 USC 577c-577h.

16 USC 577d-1.

577g-1, 577h.

(3) Nothing in this Act shall modify the statutory authority under which units of the national park system are created. Further, the designation of any area of any park, monument, or other unit of the national park system as a wilderness area pursuant to this Act shall in no manner lower the standards evolved for the use and preservation of such park, monument, or other unit of the national park system in accordance with the Act of August 25, 1916, the statutory authority under which the area was created, or any other Act of Congress which might pertain to or affect such area, including, but not limited to, the Act of June 8, 1906 (34 Stat. 225; 16 U.S.C. 432 et seq.); section 3(2) of the Federal Power Act (16 U.S.C. 796(2)); and the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461 et seq.).

39 Stat. 535.

16 USC 1 et seq.

41 Stat. 1063.

49 Stat. 838.

(b) Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

78 STAT. 893.

78 STAT. 894.

#### PROHIBITION OF CERTAIN USES

(c) Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.



## SPECIAL PROVISIONS

(d) The following special provisions are hereby made:

(1) Within wilderness areas designated by this Act the use of aircraft or motorboats, where these uses have already become established, may be permitted to continue subject to such restrictions as the Secretary of Agriculture deems desirable. In addition, such measures may be taken as may be necessary in the control of fire, insects and diseases, subject to such conditions as the Secretary deems desirable.

(2) Nothing in this Act shall prevent within national forest wilderness areas any activity, including prospecting, for the purpose of gathering information about mineral or other resources, if such activity is carried on in a manner compatible with the preservation of the wilderness environment. Furthermore, in accordance with such program as the Secretary of the Interior shall develop and conduct in consultation with the Secretary of Agriculture, such areas shall be surveyed on a planned, recurring basis consistent with the concept of wilderness preservation by the Geological Survey and the Bureau of Mines to determine the mineral values, if any, that may be present; and the results of such surveys shall be made available to the public and submitted to the President and Congress.

(3) Notwithstanding any other provisions of this Act, until midnight December 31, 1983, the United States mining laws and all laws pertaining to mineral leasing shall, to the same extent as applicable prior to the effective date of this Act, extend to those national forest lands designated by this Act as "wilderness areas"; subject, however, to such reasonable regulations governing ingress and egress as may be prescribed by the Secretary of Agriculture consistent with the use of the land for mineral location and development and exploration, drilling, and production, and use of land for transmission lines, waterlines, telephone lines, or facilities necessary in exploring, drilling, producing, mining, and processing operations, including where essential the use of mechanized ground or air equipment and restoration as near as practicable of the surface of the land disturbed in performing prospecting, location, and, in oil and gas leasing, discovery work, exploration, drilling, and production, as soon as they have served their purpose. Mining locations lying within the boundaries of said wilderness areas shall be held and used solely for mining or processing operations and uses reasonably incident thereto; and hereafter, subject to valid existing rights, all patents issued under the mining laws of the United States affecting national forest lands designated by this Act as wilderness areas shall convey title to the mineral deposits within the claim, together with the right to cut and use so much of the mature timber therefrom as may be needed in the extraction, removal, and beneficiation of the mineral deposits, if needed timber is not otherwise reasonably available; and if the timber is cut under sound principles of forest management as defined by the national forest rules and regulations, but each such patent shall reserve to the United States all title in or to the surface of the lands and products thereof, and no use of the surface of the claim or the resources therefrom not reasonably required for carrying on mining or prospecting shall be allowed except as otherwise expressly provided in this Act: *Provided*, That, unless hereafter specifically authorized, no patent within wilderness areas designated by this Act shall issue after December 31, 1983, except for the valid claims existing on or before December 31, 1983. Mining claims located after the effective date of this Act within the boundaries of wilderness areas designated by this Act shall create no rights in excess of those rights which may be patented under the provisions of this subsection. Mineral leases, permits, and licenses covering lands within national forest wilderness areas designated by this Act shall contain such reasonable stipulations as may be prescribed by the Secretary of Agriculture for the protection of the wilderness character of the land consistent with the use of the land for the purposes for which they are leased, permitted, or licensed. Subject to valid rights then existing, effective January 1, 1984, the minerals in lands designated by this Act as wilderness areas are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and all amendments thereto.

(4) Within wilderness areas in the national forests designated by the Act, (1) the President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize prospecting for water resources, the establishment and maintenance of reservoirs, water-conservation works, power projects, transmission lines, and other facilities needed in the public interest, including the road construction and maintenance essential to development and use thereof, upon his determination that such use or uses in the specific area will better serve the interests of the United States and the people thereof than will its denial; and (2) the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture.

Mineral leases, claims, etc.

78 STAT. 894.  
78 STAT. 895.

Water resources.



# APPENDIX 3:

## TEXT OF WILDERNESS CHARACTERISTICS INVENTORY

### WILDERNESS SUMMARY SHEET

#### I. Location

ISA Name: LEAR TRAP CANYON

District: BUTTE State: MONTANA

#### II. Summary:

##### A. Results of wilderness characteristics analysis

1. Does the area appear to be natural? ☒ Yes ☐ No
2. Does the area offer outstanding opportunities for solitude or primitive and unconfined recreation? ☒ Yes ☐ No
3. Does the area meet any of the size requirements? ☒ Yes ☐ No
4. Does the area have supplemental values? ☒ Yes ☐ No

##### B. Map - Attach Map

#### III. Recommendation

Check One:

- ☐ Area should be approved as an ISA
- ☐ Area does not qualify for wilderness study
- ☒ A portion of the area should be approved as an ISA for further study and reported to the President. The restrictions imposed by Section 603 will no longer apply (see map) on the remainder of the area.

#### IV. Approval

A. District Manager: Shirley L. Sullivan acting

Date: July 27, 1979

B. State Director: Edwin Pauling

Date: 8-24-79



# WILDERNESS INTENSIVE INVENTORY

## Bear Trap Canyon Instant Study Area

### I. SIZE

**NARRATIVE:** The Bear Trap Canyon Instant Study Area originally contained approximately 4,956 acres. This included the 2,861.39 acre Bear Trap Canyon Primitive Area, 1,900 acres of roadless public land contiguous to the primitive area on the south, and 195 acres of roadless public land contiguous to the primitive area on the north.

Of the contiguous area north of the primitive area, there are approximately 180 acres of public land south and east of the road that runs along the east side of the Madison River from Red Mountain campground to the primitive area boundary. Of this 180 acres, almost everything that is relatively level has been heavily used as car camping areas (see photos 1-6). The steeper slopes start at about the 4600' contour (see photo 7) and by using this as a boundary, all of the heavily impacted areas would be excluded. This boundary eliminates approximately 50 of the original 180 acres.

Also on the north end of the study area, there are about 15 acres of roadless public land west of the river that are contiguous to the Bear Trap Canyon Primitive Area. With the exception of a powerline that crosses the northern tip (see photo 8), this area has no non-natural impacts. Using this powerline as the northern boundary of the study area eliminates about 1 acre of the original 15 acres.

On the south end of the study area there are approximately 865 acres of roadless public land west of the Madison River that are contiguous to the primitive area. A powerline cuts across the northern portion of this area, running from the Madison powerhouse in the SE1/4NW1/4 Section 17, west up the slope to the top of the ridge in the NW1/4NE1/4 Section 18. Using this powerline as a boundary eliminates all but about 90 acres of the original 865 acres.

Also on the south end of the study area there are approximately 1,035 acres of public land contiguous to the primitive area on the east side of the Madison River. Within this area there are also a number of permanent improvements. Included in these improvements are the Ennis Lake Dam, the old and new Madison powerhouses (see photo 9), a road, an aqueduct (see photo 10), and several other buildings (see photo 11). All of these improvements are within a narrow corridor along the river's edge.

Once away from this corridor and into any one of the side drainages, the area again appears completely natural (see photos 12-15). This corridor is probably not much wider than 300 feet at its widest point. A corridor this wide running from the primitive area boundary to the bridge at the head of Ennis Lake would eliminate just over 100 acres from the study area.

Altogether these four boundary modifications eliminate approximately 941 acres of public land, leaving the Bear Trap Canyon Instant Study Area with a size of 4,015 acres.

Summary: 1. Does the area have at least 5,000 acres of contiguous land or fit one of the size exceptions specified on page 12 of the Wilderness Inventory Handbook?

YES /X/ NO / /

/s/ Richard E. Ward July 27, 1979

### I. NATURALNESS

**NARRATIVE:** Bear Trap Canyon is a nine mile gorge through the Madison Mountains cut by the Madison River. Its nearly vertical walls rise to about 1,300 feet at the south end and 500 feet at the north end (see photos 16-21). Although it does contain some evidence of man's work, it is primarily an area of unspoiled beauty, undeveloped and unscarred by man's activities.

The most significant impact on the naturalness of the area is a cabin site in the NE1/4NW1/4 Section 34, T3S, R1E (see photos 22 and 23). Located at this site is the cabin (see photos 24 and 25), an outhouse (see photo 26), a fenced garden (see photos 27 and 28), at least two garbage piles (see photos 29-31), scattered litter, and several cut trees (see photos 32 and 33). This cabin appears to be used on a regular basis, (see photos 34 and 35) and if so, such occupancy would constitute a trespass. The overall impression of the cabin site is that it is not natural and has been affected primarily by man and not by nature. In addition, the cabin has no historical significance.

Another impact on the naturalness of the area is the existence of an old jeep trail that runs along the east side of the river for about 2 1/2 miles, from the northern boundary of the primitive area to just past the cabin site in Section 34. This vehicle way was closed to motor vehicles at the boundary of the primitive area (see photo 36) when the area was dedicated in 1972. Portions of this way are now almost completely overgrown and revegetated (see photos 37-39); others show just two wheel tracks (see photos 40-42) and still others have been cut out of rock and had rock construction and are obviously an old road (see photos 43-45). In most places the vehicle way is being used as an access trail and has little overall impact.

In addition to the jeep trail there are several other trails in the area. On both banks of the river there are unofficial "fishermen's" trails. These trails have developed over the years through repeated use by fishermen walking up and down the banks. In most places this poses no problem, but in some wetter areas some resource damage is resulting (see photo 46). Besides these "fishermen's" trails, there are three more trails in the area. One of these goes up McClain Creek in Sections 21 and 22 for about 1/2 mile (see photo 47). Another is on the ridge above the canyon in the southeast corner of the area. It runs for about 2 1/2 to 3 miles and crosses Trail, Spring and Falls Creeks (see photo 48). The major trail in the area is a continuation of the jeep trail which ends in Section 34. The foot trail crosses Bear Trap Creek on a bridge (see photo 49), and continues up the east side of the



canyon (see photo 50), before ending at the emergency spillway for the Madison River powerhouse. At one time the trail crossed this spillway and continued past the powerhouse to the road end, but this access route was closed for safety reasons in 1978.

In several places in the ISA there are old gates and the remains of old fences (see photos 51-54). There are also numerous small campsites and fire rings scattered throughout the canyon (see photos 55-61). There is no major problem with devegetation or compaction at any of these sites, and all could return to a natural condition in a short period of time.

The past and present use of the Madison River for power development has also had an impact on the naturalness of the canyon. Although the present dam, powerhouse, and related developments are outside the area, the boundary does parallel these developments on three sides. Because of this, the sights and sounds associated with these developments do penetrate into the area for a certain distance. The sound of the river and the vegetation generally screen these sights and sounds before they penetrate very far, thereby minimizing their impact. The dam and lake are also causing a problem with thermal pollution in the river below the dam. A 1979 study shows an average increase in water temperature of 7.5 F. between where the water enters Ennis Lake and where it leaves the powerhouse. This increase in temperature has resulted in slower growth of salmonids, as the average length and weight of all age groups were smaller than similar ages above the reservoir. Although this impact is ecologically significant, it is not readily apparent to most casual visitors.

Also associated with the power development are the remains of some work done at a potential dam site just south of Bear Trap Creek in Section 34. All that remains now are an eye bolt and some cable on the shore (see photo 62), some rock pilings and steel pipes in the river (see photos 63-64), and a shallow cave that has recently been "improved" with a small rock wall and bough bed, creating a small shelter (see photos 65 and 66).

The only remaining impacts on the naturalness of the area are a couple of old car bodies in the river (see photos 67 and 68) and some small prospect holes (see photos 69 and 70). Two of the prospect holes are very close to the boundary and may be outside the ISA. One is located just north of Bear Trap Creek in Section 34 and the other is just south of the road in the NE1/4 Section 15. Both of these prospects are overgrown and not very noticeable.

Most of the impacts listed above have only a minimal impact on the overall naturalness of the area. The cumulative impact is not large. The plant and animal communities remain virtually unchanged. Natural processes continue to operate largely unimpaired (see photo 71). The overall impression is of a wild, white water canyon unchanged by man and affected only by the forces and moods of nature (see photos 72-78).

Summary: Does the area generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable?

YES /X/ NO / /

/s/ Richard E. Ward

July 27, 1979

### III. OUTSTANDING OPPORTUNITY FOR SOLITUDE OR PRIMITIVE AND UNCONFINED RECREATION

#### A. Solitude

**NARRATIVE:** Bear Trap Canyon is a rugged river gorge with towering rocky rims above (see photos 79 and 80) and rushing white water below (see photos 81 and 82). It contains a variety of vegetation types, ranging from dense riparian types along the river and stream banks (see photos 83 and 84), to drier forested areas (see photo 85), and finally up to more open grass and shrub areas (see photo 86).

The physical profile of the area tends to funnel people along the river, but this is not a major problem. The numerous bends of the river as well as the vegetation tend to screen visitors from one another. In addition, it is possible to climb the slopes of the canyon or walk up any of the side drainages to get away from other visitors. Doing this gives one a sense of total isolation (see photos 87-90).

There are some off-site intrusions which affect the opportunities for solitude in the area. The major one is associated with the Ennis Lake dam and the Madison powerhouse. Not only are the buildings, dam, road, and aqueduct visible from portions of the area, but there is also a certain amount of noise associated with the activities carried on at these facilities. This noise is screened to a certain extent by the sound of the river and by vegetation, but some sound still penetrates for a short distance (less than 1/4 mile) into the area. This is an unavoidable impact which affects only the opportunities for solitude in the immediate vicinity, but does not significantly affect the overall opportunities for solitude. These overall opportunities definitely qualify as outstanding.

Summary: Does the area have outstanding opportunities for solitude?

YES /X/ NO / /

/s/ Richard E. Ward

July 27, 1979



## B. Primitive and Unconfined Recreation

**NARRATIVE:** Bear Trap Canyon offers numerous opportunities for primitive recreation. Perhaps the best known of these is the quality fishing provided. The Montana Stream Classification Committee designated that portion of the Madison River through Bear Trap Canyon as a "blue ribbon" trout stream, the highest rating given a fishing stream in the state. It is not uncommon to catch 3 to 4 pound rainbow and brown trout, and fishing is currently the most popular form of recreation taking place in the canyon.

There are also excellent opportunities for hiking and camping within the area. Not only is there the main trail on the east side of the river, but there are also unofficial "fishermen's" trails along both banks, trails up some of the side drainages, and a trail in the southeast corner of the area. There are numerous areas suitable for camping along the river (see photos 91-94), and streams and springs provide fresh water (see photos 95-98).

Although it can be dangerous in high water, the Madison River through Bear Trap provides an exciting challenge to white water rafters and kayakers. The upper end in particular has numerous large rapids while the lower end is calmer with more pools and riffles.

Bear Trap Canyon also provides opportunities for nature study and some hunting. The rocky crags provide excellent nesting sites for eagles, hawks, and other raptors, while numerous songbirds live in many of the other areas. Mule deer, coyotes, bobcats, and beaver are frequent inhabitants of the area, as are ducks, geese, and rattlesnakes. Because plant and animal communities are still in their natural condition, opportunities for ecological study attracts scientists and other visitors. Scenic geologic features in the form of huge boulders and sheer cliffs can be enjoyed while either floating the river or hiking the trail. Rock and mineral collecting is a popular form of recreation for some visitors, as well.

In summary, Bear Trap Canyon offers outstanding opportunities for primitive and unconfined recreation both through the diversity of those opportunities and through the high quality of many of them.

Summary: Does the area have outstanding opportunities for primitive and unconfined recreation?

YES /X/      NO /      /

/s/ Richard E. Ward      July 27, 1979

## IV. SUPPLEMENTAL VALUES

**NARRATIVE:** Bear Trap Canyon contains several supplemental values. The most spectacular of these is the geology of the area. Not only does it contain sheer river carved cliffs rising several hundred feet into the air, but on a smaller scale there are numerous examples of other geologic processes as well (see photos 99 and 100).

Another supplemental value is that this relatively small area contains flora from three distinct vegetation types; the Great Plains, Rocky Mountain and Great Basin types.

Because of its high quality, the fishing could also be considered a supplemental value, as could the scenery within the canyon.

Summary: Does the area contain ecological, geological, or other features of scientific, educational, scenic, or historical value?

YES /X/      NO /      /

/s/ Richard E. Ward      July 27, 1979

## V. POSSIBILITY OF CERTAIN AREAS RETURNING TO A NATURAL CONDITION

**NARRATIVE:** The only major impact on the naturalness of the area is the cabin site in Section 34. This area could be returned to a natural condition using only hand labor, and the necessary monetary investment would be small. The major things that would have to be done are:

1. Packing out the two garbage piles and other scattered junk that is lying around.
2. Removing the fence around the garden and letting it revegetate naturally.
3. Removing the outhouse and filling in the pit.
4. Taking down the clothes lines.
5. Cleaning up some of the dead and down trees that were cut down.
6. Removing the contents from the inside of the cabin.
7. Making the cabin uninhabitable, possibly by removing the windows, doors, and roof.



All of this work could be accomplished by a YACC or YCC crew in only a few days time.

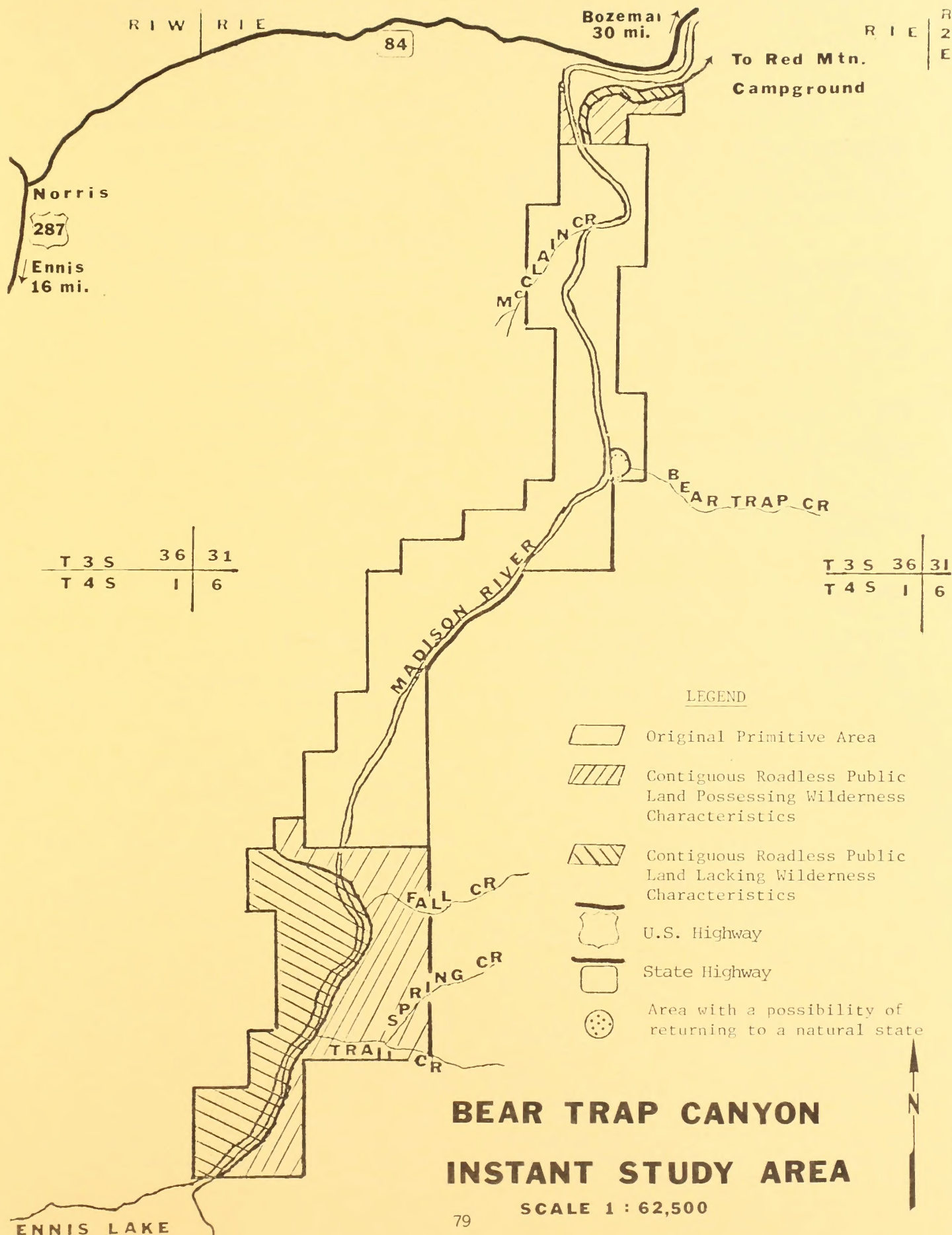
Some of the other, lesser impacts could also be cleaned up using hand labor if this was deemed desirable. This would include such things as, cleaning up litter and dismantling fire rings at some of the campsites, cutting up and removing the car bodies from the river, doing some maintenance on the trail where erosion is a problem, and removing the old abandoned fence posts and gates. The investment of time and money for this would be minimal.

Summary: If the area were to become a wilderness area, could the imprint of man's work be reduced by either natural processes or by hand labor to a level judged to be substantially unnoticeable?

YES /X/                      NO /     /

/s/ Richard E. Ward                      July 27, 1979







# APPENDIX 4:

## EXCERPTS FROM THE DILLON RESOURCE AREA MANAGEMENT FRAMEWORK PLAN

### R-1.11 (MC-R-1)

**SUPPORT RECOMMENDATION:** Prohibit any tree cutting on Public Lands within a 1/4 mile corridor on each side of the Madison River from Quake Lake to the northern boundary of the planning unit.

**RATIONALE:** Although a limited amount of trees grow on Public Lands along the river corridor, where they do exist they provide shade, wind screening and scenic values for river users. Stream shading is also a beneficial ingredient in the maintenance of fishery habitat and thus sport fishery values.

### R-1.12 (MC-R-1)

**SUPPORT RECOMMENDATION:** If the Bear Trap Canyon is not designated a wilderness area, institute a motorized vehicle closure for the area within one year after the wilderness decision to preserve the unique resources and to enhance the outstanding opportunities for recreational experiences.

**RATIONALE:** The Bear Trap Canyon Instant Wilderness Study Area is undergoing review for its wilderness potential as required by the Federal Land Policy Management Act. Wilderness Area designation ensures motorized vehicle travel would not be allowed within the area. Implementing a motorized vehicle closure for the area, should wilderness designation not materialize, would ensure the provision of primitive, unconfined recreation expressly desired by the recreating public. Additionally, provisions of back-country recreation would assist in meeting the Montana department of Fish and Game projections of future demand for primitive recreation opportunities (See Objective Rationale).

### R-1.13 (MC-R-1)

**SUPPORT RECOMMENDATION:** Develop the following access and trailhead facilities at a new location 1/8 mile north of the present northern trailhead for the Bear Trap Primitive Area by 1981.

1. Sanitary facilities, parking area, and road barriers.
2. Improve existing access road.
3. Establish and sign the area for "Pack It In, Pack It Out" waste disposal and "No Overnight Camping" policies.

**RATIONALE:** This trailhead provides the best access into the Bear Trap Primitive Area and receives moderate use (average of 9 people per weekday, 14 people per weekend day) by hikers, fishermen, and campers. The current trail head is located in an extremely narrow and confined area. Due to use pressure and

resource damage it is readily apparent that an appropriate trailhead facility needs to be provided as soon as possible and prior to completion of a river corridor management plan.

### R-1.14 (MC-R-1)

**SUPPORT RECOMMENDATION:** Take immediate action to acquire in fee title or through land exchange, the private lands along the Madison River in the southern and eastern portions of Sections 10, 11, and 16, T3S, R1E, (220 acres).

**RATIONALE:** This site is the most heavily used undeveloped site along the Madison River with an average of 16 people on a weekday and 70 people on a weekend day. It is a favorite spot for floaters to launch their crafts because it is a readily accessible and relatively safe launching site. Fishermen and hikers also use this site to walk into the western side of Bear Trap Canyon. Because of heavy use pressure and resource damage it is apparent that this site needs to be acquired and facilities constructed in accordance with a river corridor management plan. It is imperative that BLM act immediately prior to completion of a corridor management plan to protect this site from further resource deterioration, maximize recreational opportunities, and to preclude private development which could adversely impact scenic/recreation values.

### R-1.15 (MC-R-1)

**SUPPORT RECOMMENDATION:** Develop the following facilities at the Ennis Boating Access Site by 1980:

1. Improved boat ramp.
2. Sanitary facilities and removal of old outhouse.
3. Improved access road to boat ramp.
4. Locational and directional signing.

**RATIONALE:** This site is the closest and the only public access site on Ennis Lake for Madison River floaters to take out their boats. The area currently receives light summer and fall use primarily because most people are not aware this land is in Public ownership. The dirt ramp is in fair to poor condition and showing signs of erosion.

**MULTIPLE USE ANALYSIS (R-1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, and 2.12)**

Replacement Recommendations R-1.4 and 2.1 are for the development of river corridor management plans on the Big Hole and Madison Rivers. The remaining recommendations are considered support to R-1.4 and R-2.1.



The Madison and Big Hole Rivers are nationally famous fisheries that receive substantial recreational use. Both are classified as blue ribbon streams (or Class I fisheries) under in interagency and institutional system devised several years ago.

Recreational use on the Madison River for a six-month survey in 1978 documented over 42,000 visits on BLM administered lands alone. In 1975 the Montana Department of Fish and Game estimated 63,851 angler days were recorded on 67 miles of the Madison. The BLM survey indicated 86 percent of the users of BLM facilities were nonresidents.

Recreational use on the Big Hole River during a 1978 survey indicated over 10,000 visits to BLM semideveloped and undeveloped recreational sites. A creel census in 1977 for the 10 mile segment from Melrose to Glen showed that portions of the river received over 5,000 angler days of fishing.

The formation of a management plan for the rivers could conceivably take several approaches. One, which would be appropriate for both the Madison and Big Hole Rivers, is the implementation of a plan coordinated with other federal, State and local agencies. This approach would identify management options, goals, and policies. Following this course of action the problems involved with individual agency segmented management is resolved. This effort would require intense coordination which, if not accepted as an alternative to the present management, would provide an excellent interim plan. If this approach is followed, other studies, i.e. the Wild and Scenic River Study proposed for the Madison River (R-1.2) will be addressed in unison and coordination is deemed essential.

The designation of a river for Wild and Scenic River Study is a major effort and requires coordination and the cooperation of riparian landowners, both private and governmental. These studies would highlight problems and conflicts and by working together, acceptable viable alternatives would be developed. Wild and Scenic designation would allow most existing uses along the Madison to continue. One important consideration for the designation of the Madison River as a Wild and Scenic River, would be limitations and controls on subdivision and development. These controls would reduce the hazard of serious environmental and ecologic damages and at the same time provide for orderly and acceptable development. The declaration of the Madison as a navigable river (R-1.3) would allow public access for fishing along the river up to the ordinary high water line.

The social-economic impacts are obvious considerations and will be examined during the study. Public input will be solicited during the study.

Associated with the corridor management plan would be the pursuit of "blocking-up" ownership within prescribed distances and areas. This may involve acquisition of private lands via purchase or exchange (R-2.7, 2.10, and R-1.16) and the retention of key parcels earmarked for removal from BLM administration (RM-7.1, 7.2, and WL-3.12). Related to the land ownership pattern, would be more stringent controls on developments and practices such as utility lines (R-1.9), road construction (R-1.8), silvicultural practices (R-2.12 and R-1.11), prohibition or restriction of motorized vehicles (R-1.12),

possible withdrawal of minerals (R-2.4, 2.8, 2.9, and R-1.10), and limitations on livestock grazing in key areas (R-2.3 and R-1.5).

By severely restricting, or if necessary excluding livestock grazing within the proposed corridors along the Madison and Big Hole Rivers improvement in water quality and fishing could be expected. Problems with this approach are both social and economic. The social impacts, in part, are related to the land ownership pattern. Private landowners may object to not having total use of their lands. Many of the private landowners may not have viable economic units, if not allowed access to BLM administered lands within the corridors. Cost of fencing BLM lands from intermingled private and other ownerships would be prohibitive. The fencing could further impair the scenic quality of the proposed corridors. With fencing, access may become more difficult. Advantages to the proposal for exclusion or restriction of livestock are improved riparian habitat, streambank stabilization, and water quality.

Benefits to the public from development and implementation of the proposed recreational corridors would assure quality recreation, adequate water quality, continued influx of nonresidents for recreational experiences, increasing tourist economic base to local communities, guaranteed access to the rivers, and a quality environment, to name a few. Some of these benefits would be directly related to proposed recreational site developments (R-2.6, 2.11, and R-1.13, 1.15, and 1.17). Associated with these proposed facilities would be boating access, foot trails, cultural edification and solitude.

## MULTIPLE USE RECOMMENDATIONS

Accept recommendations R-1.4 and R-2.1 as written, those being the implementation of an accelerated and coordinated management plan to preserve the scenic and recreational opportunities of the Madison and Big Hole Rivers.

### A. Big Hole River site specific MUR.

1. Proceed with development of the Divide Bridge Recreation Area (R-2.6). Withhold development of other facilities unless use and cost/benefit studies have been completed and results are consistent with the corridor management plan (R-2.11).
2. Accept Recommendation R-2.2 as written.
3. Modify Recommendations R-2.8 and R-2.9 to withdraw from locatables only.

### B. Madison River site specific MUR.

1. R-1.2 · Pursue a cooperative planning and management effort with local, federal, State and the private sector to preserve and protect recreation values on the Madison River. If this approach is not successful by September 1980, recommend a Wild and Scenic River Study for the Madison River.
2. R-1.3 · Support the Montana Department of Fish and Game in efforts to have the Madison River designated a navigable river.



3. R-1.3 · Modify this recommendation. Consider the Madison River corridor for ACEC designation after final ACEC regulations are published.

4. Accept Recommendation R-1.9 and R-1.12 as written and enforce pending completion of appropriate studies.

5. Reject Recommendation R-1.6 as written; however, allow for BLM participation and assistance to the Montana Department of Fish and Game. Support viable solutions and provide monetary support through the annual work planning process as appropriate.

6. Modify Recommendations R-1.15 and R-1.17 to read as follows: Address recreational facilities necessary to insure adequate access, sanitation, and safety in the Corridor Management Plan.

7. Accept Recommendation R-1.13 as written, that being, the location of trailhead facilities for the Bear Trap Primitive Area's north end.

C. Combined recommendations applicable to both the Madison and Big Hole Rivers.

1. Prohibit any new road construction on Public Lands within a one-quarter mile corridor either side of the rivers pending the outcome of the Corridor Management Plan(s). Recommendation R-1.8 modified.

2. Recommendations R-1.11 and R-2.12 are modified as follows: Maintain a scenic buffer zone of timber along the Madison and Big Hole Rivers.

3. Recommendation R-1.10 and R-2.4 are modified as follows: Withdraw lands from locatable mineral entry on a site or area basis in accordance with recreation plans which will evaluate user preference and site capabilities.

4. Recommendations R-1.5 and R-2.3 are combined to read as follows: Maintain riparian habitat in good to excellent condition (see Wildlife URA riparian vegetation survey criteria). Adjust, discourage, or eliminate grazing to meet the objectives.

5. Recommendations R-1.16, R-1.14, R-2.7, and R-2.10 are combined and modified as follows: Expand or protect recreational and scenic values (or both) on those lands identified for acquisition, etc. (See Multiple Use Recommendation for Lands 9.1 to evaluate the lands in these corridors earmarked for this recommendation).

6. Recommendation R-1.7 and R-2.5 are accepted as written. Any lands that fall within this distance, that in the future may be considered for exchange, are subject to multidisciplinary review.

## REASONS

The demand for recreational use along the Big Hole and Madison Rivers is projected to increase 36 percent from 1979 to 1990. Present use annually on BLM developed and semideveloped recreational sites is about 10,000 visits on the Big Hole and 42,000 visits on the Madison River.

Generally, recreational use of BLM administered lands along these corridors takes place regardless of facilities and/or control. In order to mitigate the impact of uncontrolled use some regulation and facility construction is warranted. The Divide Bridge development will aid in this objective. The trailhead facilities at the north end of the Bear Trap will improve an existing condition that is essentially unregulated, and considered a safety hazard. The remaining proposed facilities can be addressed on a site by site basis in the framework of the management plan to assure orderly and acceptable development.

The total exclusion of cattle grazing may not be justified; however, wildlife and recreation uses are important to the river corridors. Though grazing may adversely impact riparian vegetation, water quality, and sediment loads, strict allotment management can, in some instances, effectively reduce the impacts. By regulating the grazing through season of use, numbers, and length of residency, damage to riparian areas can be reduced. If deterioration does not cease and stabilization of streambanks and vegetation cannot be achieved, then more drastic measures will be imposed. To enhance and enforce future grazing management decisions, necessary dates, documented through monitoring programs (W-1.1, 1.5, 1.7, 2.1), showing irreducible situations will substantiate exclusion or severe restrictions.

To withdraw all mineral entries and preclude all explorative opportunity on BLM lands administered along the corridors would involve countless years of work. Minerals Recommendation M-1.7 evaluated the proposed withdrawal areas using three criteria:

1. Mineral potential.
2. Imminent mining activity.
3. Past mining activity.

The recommendations (R-2.4 and R-1.10) appear not to warrant withdrawal. Many of the river corridors have been withdrawn for other reasons. If the appropriate State laws; Clean Air Act, Water Pollution Control Act, Public Water Supply Act, Solid Waste Management Act, and Natural Stream Bed Act do not provide adequate control over proposed activities, i.e. mining, their withdrawal will have to be considered. Obviously, enforcement of these acts and their attendant rules and regulations must be pursued by the State.

The rejection of Recommendation R-1.6 is based on the fact that the BLM does not have the authority to initiate studies on lands not administered by them. Ennis Lake is surrounded by private ownership. The best approach for the Bureau to take in order to achieve desired results is to assist agencies that can invoke jurisdictional rights.

With regard to dewatering of the Big Hole, the approach is again one of cooperation and assistance. Initiation of a program that relates to private lands, water rights, and State controlled waters is not within the BLM's structure. BLM has no control over the dewatering. It could, because BLM controls 13 miles of the Big Hole's riparian lands, under the Montana Water Use Act of 1973 sec. 26, appropriate a reservation (or apply for) enough units of water to enhance summer low flows.



If local level coordination does not provide for adequate preservation and management of the Madison River, the desired protection may be achieved through Wild and Scenic River designation. The "Wild and Scenic Rivers Act" states that "The Secretary of the Interior or, where national forest lands are involved, the Secretary of Agriculture or, in appropriate cases, the two Secretaries jointly shall study and from time to time submit to the President and the Congress proposals for the addition to the national wild and scenic rivers system of rivers which are designated herein or hereafter by the Congress as potential additions to such system; which, in his or their judgment, fall within one or more of the classes set out in section 2, subsection (b), of this Act; and which are proposed to be administered, wholly or partially, by an agency of the United States. Every such study and plan shall be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act (79 Stat. 244:42 U.S.C. 1962 et seq.)".

The main objective is to protect and preserve the natural qualities of the river. Approaches must be tempered by the fact that 60 percent of the river front is under the ownership or control of other than BLM. The success of any action proposed is dependent on the ability of federal, State, county, and private interests to work cooperatively.

Public access for fishing will be enhanced if the State Department of Fish and Game is successful in achieving navigable designation on the Madison River. Any person owning a State angler's license, who desires to angle within the area between the high water flowlines or within the meander lines of navigable streams has the right to angle.

The Bear Trap Canyon is characterized by steep slopes and shallow soils. Vehicle travel would significantly disrupt the ecology of the area and cause accelerated erosion. Utility lines are generally offensive to users of the primitive area and if exposed, would detract from the integrity of the area.

Forest practices can occur within the corridors and still maintain the scenic quality. Practices would be restricted to areas outside the visual impact corridor.

## SUPPORT

1. Recreation Outdoor Planner.
2. Multidisciplinary review.
3. Cadastral survey.
4. Realty Specialist.
5. Managerial report.
6. Minerals Specialist.
7. Appraisal and classification.
8. Coordination with other agencies and interested parties.
9. Operations.
10. Landscape Architect.



# APPENDIX 5:

## EXCERPT FROM U. S. GEOLOGICAL SURVEY AND BUREAU OF MINES MINERAL REPORT

### SUMMARY

#### MINERAL RESOURCE POTENTIAL OF BEAR TRAP CANYON INSTANT STUDY AREA, MONTANA

The Bear Trap Canyon Instant Study Area, Montana, is about midway between Butte and Yellowstone National Park, and includes 5,400 acres mostly in a canyon along a 9-mile stretch of the Madison River. The study area was appraised by the U. S. Geological Survey and U. S. Bureau of Mines in 1979. This appraisal consisted of a resource assessment based upon geological and geochemical surveys and examination of mineralized prospects. A geologic map was made of the area and its immediate surroundings. Chemical and spectrographic analyses were made of 41 stream-sediment samples and 47 rock samples. The locations of mining claims were compiled and samples from most of the prospects were assayed. No mineral production is recorded from within the study area. The study area has a low mineral resource potential, except possibly for nickel. Building stone, sand, and gravel in the study area are too remote to be economically attractive; similar deposits occur closer to cities and highways. The likelihood of discovery of sources of energy in the study area is remote.

The canyon of the Madison River is underlain by high-grade metamorphic rocks of the Pony Group, consisting chiefly of granitic gneisses and intercalated amphibolites. These rocks are probably of Archean age (2,700 m.y. old). The metamorphic rocks contain many small plugs and pipes of mafic and ultramafic rocks. The plugs and pipes, intruded before and (or) during metamorphism, are basaltic to ultramafic rocks belonging to a group known as komatiites. Komatiites are relatively low in  $TiO_2$  and high in  $MgO$  compared to most basalts. Elsewhere in the world, komatiites are known to be associated with deposits of nickel. Chemical analyses of the pipes and plugs within the study area have anomalously high values, approximately an order of magnitude higher, of chromium and nickel. Some of the amphibolites are komatiites, also, and may have been thick flows or sills extruded or intruded from the nickel-bearing pipes and plugs. Samples from four amphibolites were analyzed, and three amphibolites were found to contain higher than normal amounts of chromium and nickel. At present, no criteria have been delineated to enable one to distinguish the nickel-rich amphibolites in the field. No samples were discovered in which nickel concentrations reached ore grade, but a potential for nickel may exist that could not be fully evaluated by this study.

The Lower Hot Springs mining district, located west of the study area, produced gold, silver, copper, lead, and zinc, with most of the production being from the Boaz mine. A system of northwest-trending faults that pervades the district is continuous to the east across the study area. However, the width of mineralized structures and the concentration of mineralization in the structures diminishes rapidly east of the Boaz mine. The Morning Star and Copper King claims about 1 mile (1.6 km) west of the study area, have a northwest-trending shear zone, that has a small amount of silver mineralization. A small chalcedony vein, about 2 miles (3.2 km) east of the study area, may represent an eastern extension of the Lower Hot Springs mineralization. With the exception of a few high-grade samples selected from dumps near small workings, no lode samples from the study area contained either base or precious metals in economic concentrations. Likewise, stream-sediment samples collected in the study area do not contain anomalous amounts of base or precious metals. Thus, the study area is considered to have a low potential for these commodities.



## APPENDIX 6:

### PREPARERS

#### Team Members

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Team Leader

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Jack Schield, Range Conservationist, Dillon Resource Area

William Torgersen, Forester, Butte District Office



# APPENDIX 7: DISTRIBUTION

Copies of this document were sent to the following agencies, organizations, and businesses for their review.

## FEDERAL AGENCIES

Council on Environmental Quality  
Department of Agriculture  
    Forest Service  
    Soil Conservation Service  
Department of the Army  
    Corps of Engineers  
Department of Energy  
Department of the Interior  
    Bureau of Mines  
    Fish and Wildlife Service  
    Geologic Survey  
    Heritage Conservation and Recreation Service  
    National Park Service  
    Water and Power Resource Service  
Environmental Protection Agency

## MONTANA CONGRESSIONAL DELEGATION

## STATE OF MONTANA

Bureau of Mines and Geology  
Conservation Commission  
Department of Community Affairs  
Department of Fish, Wildlife, and Parks  
Department of Health and Environmental Sciences  
Department of Natural Resources and Conservation  
Department of Planning and Economic Development  
Department of State Lands  
Environmental Quality Council  
Montana State University  
Office of the Governor  
Office of the Lieutenant Governor  
Selected State Legislators

## LOCAL GOVERNMENT

Chief Executive, Butte-Silver Bow Government  
Madison County Commissioners  
Madison County Planning Board

## BUSINESSES

The Anaconda Company  
Atlantic Richfield  
Cominco-American  
Exxon Corporation  
F.H. Stoltze Land and Lumber Company  
The Montana Power Company  
Rainbow Resources  
Stauffer Chemical

## ORGANIZATIONS

American Wilderness Alliance  
Anaconda Sportsmens Club  
Back Country Horsemen of Missoula  
Beaverhead Concerned Citizens  
Beaverhead Snow Riders  
Canyon Coalition  
Center for Public Interest  
Concerned About Snowmobiling Everywhere  
Defenders of Wildlife  
Dillon Chamber of Commerce  
Environmental Information Center  
Five Valleys Audubon Society  
Friends of the Earth  
Gallatin Wildlife Association  
Helena Motorcycle Association  
Inland Forest Resource Council  
Madison Gallatin Alliance  
Montana Association of Counties  
Montana Association of Grazing Districts  
Montana Cattlemen's Association  
Montana Chamber of Commerce  
Montana 4x4 Association  
Montana League of Cons. Voters  
Montana Mineral Association  
Montana Mining Association  
Montana Outfitters Association  
Montana Petroleum Association  
Montana Public Lands Council  
Montana Snowgoers  
Montana Snowmobile Association  
Montana Stockgrowers  
Montana Taxpayers Association  
Montana Wilderness Association  
Montana Wildlife Federation  
Montana Women for Timber  
Montana Wood Products Association  
Montana Woolgrowers  
National Forest Products Association  
Northern Plains Resource Council  
The Sierra Club  
The Wilderness Institute  
The Wilderness Society

Copies of this document were also sent to selected individuals, newspapers, magazines, and radio and television stations. In addition, everyone else on a mailing list of about 3,500 names received a card indicating that the document was available and would be sent to them on request.



## APPENDIX 8:

### SPECIAL LEGISLATIVE NEEDS

Provisions of section 4(d) of the Wilderness Act should be considered in the drafting of legislation for designation alternatives. It is recommended that any areas to be designated wilderness be withdrawn from mineral entry, if they have not previously been withdrawn. The withdrawal of such areas should become effective on the date that the area is designated as a part of the National Wilderness Preservation System.

No other special legislative needs have been identified for any alternative except Alternative 1-C.

The management of the canyon under Alternative 1-C would be divided between the Forest Service and the Bureau of Land Management. Legislation should consider joint management of the area or single agency management of the area.

There is no particular timetable for legislative action that needs to be set.



# GLOSSARY

**ALLUVIAL.** Pertaining to or composed of any sediment deposited by flowing water (alluvium), as in a river bed.

**BATHOLITH.** A mass of intruded igneous rock that for the most part stopped in its rise a considerable distance below the surface, and that extends downward to an unknown depth.

**CHERT.** An impure flintlike rock essentially of cryptocrystalline quartz or fibrous chalcendony, usually dark in color.

**CLIMAX VEGETATION.** The final vegetative community that emerges after a series of successive vegetational stages and perpetuates itself indefinitely unless disturbed by outside forces.

**CORUNDUM.** A mineral,  $Al_2O_3$ , extremely tough and with hardness exceeded by only a few substances. Ruby and sapphire are gem varieties.

**CRETACEOUS.** The most recent of three periods in the Mesozoic era; from 135 million to 63 million years ago.

**CULTURAL FEATURES.** Features of historical, archaeological, or architectural significance, which are fragile, limited, and non-renewable portions of the human environment.

**ENDANGERED SPECIES.** See Threatened or Endangered Status.

**FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA).** Public Law 94-579, October 21, 1976, often referred to as the BLM "Organic Act," which provides the majority of the BLM's legislated authority, direction, policy, and basic management guidance

**FORAGE.** Vegetation of all forms that is available for animal consumption.

**GNEISS.** A banded or foliated metamorphic rock, usually of the same composition as granite, in which the minerals are arranged in layers.

**HABITAT.** A specific set of physical conditions that surround the single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

**IGNEOUS ROCK.** Rock formed by solidification of molten or fluid earth material. Intrusive igneous rocks solidified beneath the surface of the earth; extrusive igneous rocks emerged at the surface as molten material (e.g., lava) before solidifying.

**INHOLDING.** Privately owned land inside the boundary of BLM-managed land.

**INSTANT STUDY AREA.** (study area). In this document, this refers to one of the primitive or natural areas formally identified prior to November 1, 1975, and any contiguous roadless public land with wilderness characteristics.

**LITHIC SCATTER.** Surface manifestation of single or multiple short-term human occupation. Lithic scatters are identified by the presence of lithic material (rocks), often not native to the area, that shows evidence of human workmanship; for example, chipped or flaked in ways that are almost never the result of natural forces.

**LOW GRADE, LARGE TONNAGE DEPOSIT.** Disseminated minerals in a large body of rock, characterized by large size, uniform dissemination, and low average per-ton mineral content.

**MANAGEMENT FRAMEWORK PLAN (MFP).** A planning decision document that establishes, for a given planning area, land use allocations, coordination guidelines for multiple use, and management objectives to be achieved for each class of land use or protection. It is the BLM's land use plan. An MFP is prepared in three steps: (1) resource recommendations, (2) impact analysis and alternative development, and (3) decision making.

**MESOZOIC.** The geologic era from 230 million to 63 million years ago.

**METAMORPHIC ROCK.** Rock masses altered in composition, texture, or structure by great heat or pressure.

**METALLIFEROUS.** Yielding or containing metal.

**METES AND BOUNDS.** The legal description of a tract of land established from a known point or points by bearing and distance.

**MOTOR VEHICLE.** Any wheeled or tracked device designed to carry people and powered by an engine.

**MOTORIZED EQUIPMENT.** Any type of equipment powered by artificial means.

**NATURALNESS.** Quality of generally appearing to have been affected primarily by the forces of nature, with the imprint of human influence substantially unnoticeable.

**NATURAL SUCCESSION.** The progressive development of vegetation toward its highest ecological expression (climax).

**NONIMPAIRMENT.** Management of an area that has wilderness characteristics to ensure that it will still satisfy the definition of wilderness in the Wilderness Act when it is recommended for wilderness designation, and that its wilderness values will not have been degraded so as to affect its suitability for preservation as a wilderness.

**OFF-ROAD VEHICLE (ORV).** Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other terrain.

**PALEOZOIC.** The geologic era from 600 million to 230 million years ago.



**PEGMATITE.** A coarse-grained igneous rock, largely granite, sometimes rich in rare elements such as uranium, tungsten, and tantalum.

**PHYSIOGRAPHIC.** Relating to landforms and relief features of an area.

**PRECAMBRIAN.** The geologic era more than 600 million years ago.

**PRESCRIBED BURNING** (also called controlled burning). The use of fire for burning a predetermined area to accomplish some desired result, the fire to be confined to said area.

**PRIMITIVE AND UNCONFINED RECREATION.** Nonmotorized and nondeveloped types of outdoor recreational activities that can be dispersed and do not require facilities. Some examples are hiking, backpacking, fishing, hunting, spelunking, horseback riding, rock climbing, river running, cross-country skiing, showshoeing, canoeing, photography, and nature study.

**PUBLIC LAND.** Any land and interest in land (outside of Alaska) owned by the United States and maintained by the Secretary of the Interior through the Bureau of Land Management (BLM).

**SAVANNA.** As used in this document, a formation consisting of a combination of trees and grassland in various proportions. The appearance of the vegetation can be described as parklike, with trees spaced singly or in small groups and surrounded by, or interspersed with, surfaces covered by grasses.

**SCHIST.** A metamorphic crystalline rock having a closely foliated structure, admitting of division along approximately parallel planes, and differing from gneiss in that it contains no essential feldspar and usually has finer laminations.

**SCREE.** Loose rock debris at the base of a slope or cliff.

**SEDIMENTARY ROCK.** A more or less compacted and coherent rock composed of sedimentary particles. Shale, sandstone, and limestone are sedimentary rocks derived respectively from mud, sand, and lime sediment.

**SILLIMANITE.** Aluminum silicate mineral.

**SOLITUDE.** As used in evaluating an area for wilderness qualities, solitude means a person's opportunity to avoid the sights, sounds, and evidence of other people. Factors influencing solitude may be natural screening or the possibility of finding a secluded spot. Topography or vegetation may offer opportunities for visitors to screen themselves from one another, enhancing the opportunities for solitude.

**SUPPLEMENTAL VALUES.** Values that may be present in an area under consideration for wilderness, such as ecological, geological, or other features of scientific, educational, scenic, or historical value. These are not required for wilderness designation, but their presence will enhance an area's wilderness quality.

**TALUS.** 1. A slope formed by the accumulation of rock debris. 2. A sloping mass of debris at the base of a cliff.

**TERTIARY.** A geological period in the Cenozoic era; from 63 million to 2 million years ago.

**THREATENED OR ENDANGERED STATUS.** Determined for plants and animals by any one or a combination of the following factors: (1) present or threatened destruction, modification, or curtailment of its habitat or range, (2) overutilization for commercial, sporting, scientific, or educational purposes, (3) disease or predation, (4) inadequacy of existing regulatory mechanisms, or (5) other natural or human-caused factors affecting its continued existence.

**UNNECESSARY OR UNDUE DEGRADATION.** Impacts greater than those that would normally be expected from an activity being accomplished in compliance with current standards and regulations and based on sound practices, including use of the best reasonably available technology.

**VALID CLAIM.** A claim on which a valid discovery has been made (see also Valid Discovery).

**VALID DISCOVERY.** As stated in a legal ruling which has been upheld in many later decisions, it is "where minerals have been found and the evidence is of such a character that a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine. . ."

**WILDERNESS AREA (WILDERNESS).** An area designated by Congress as part of the National Wilderness Preservation System under the Wilderness Act of 1964.



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